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The Economic and Budget Outlook: Fiscal Years 1986-1990

A Report to the Senate and House Committees on the Budget — Part I

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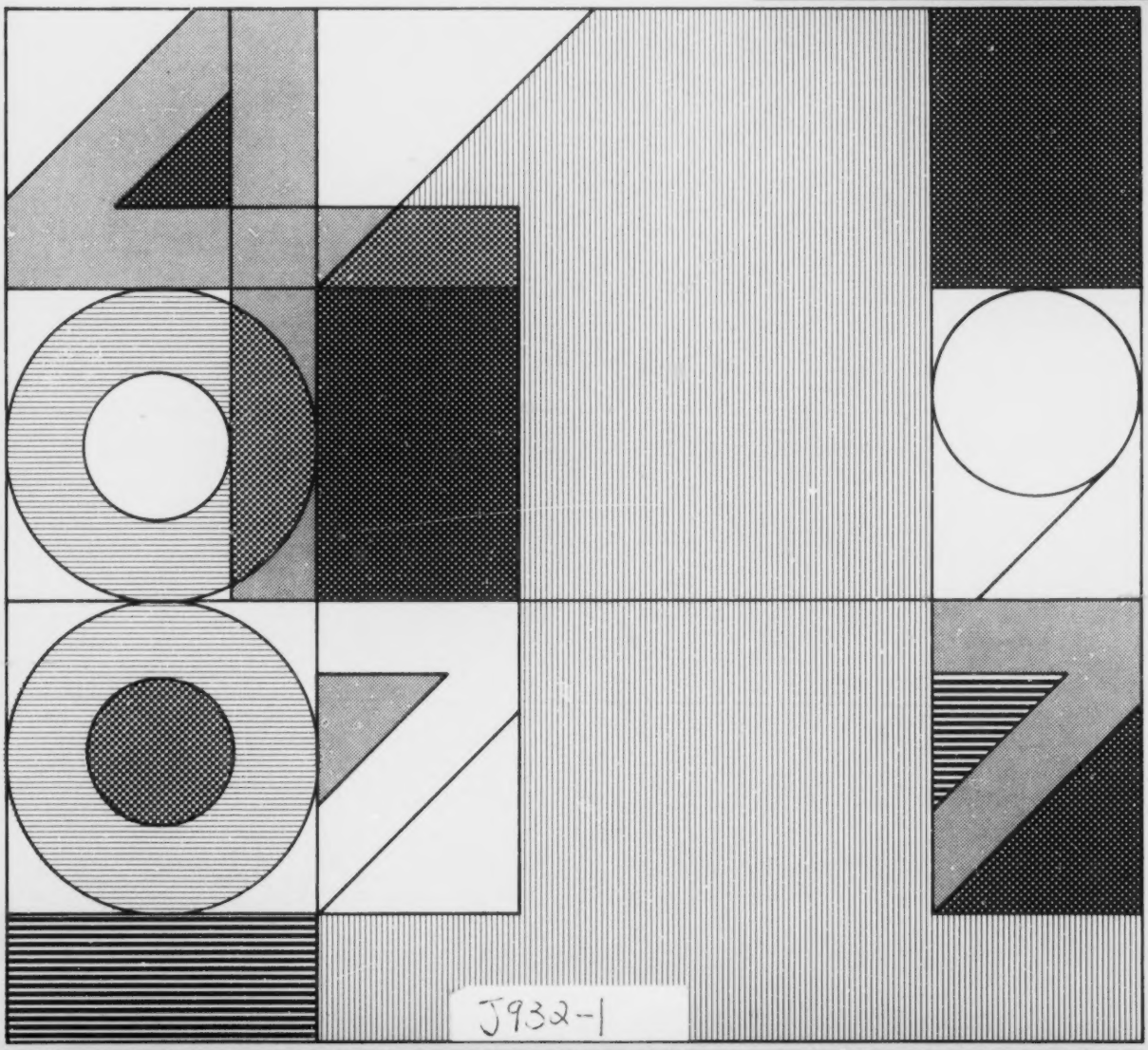

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1985 ANNUAL REPORT

THE ECONOMIC AND BUDGET OUTLOOK:

FISCAL YEARS 1986-1990

The Congress of the United States
Congressional Budget Office

NOTES

Details in the text and tables of this report may not add to totals because of rounding.

Recession periods referred to in the text of this report, or marked on the figures with vertical lines at recession peaks ("P") and recession troughs ("T"), are those identified by the National Bureau of Economic Research.

PREFACE

The Congressional Budget Office (CBO) is required by Section 202(f) of the Congressional Budget Act of 1974 to submit an annual report on budgetary options to the Senate and House Committees on the Budget. This year, the report is in two parts. This volume, Part I, presents projections of federal revenues and spending that would occur if current laws and policies continued unchanged for the next five years. It also examines the state of the economy and the economic outlook with these budget policies. Part II, *Reducing the Deficit: Spending and Revenue Options*, presents a number of broad strategies to reduce projected budget deficits and various specific options for cutting outlays and increasing revenues. In accordance with CBO's mandate to provide objective and impartial analysis, these reports contain no recommendations.

The baseline outlay projections were prepared by the staff of the Budget Analysis Division under the supervision of James L. Blum and C.G. Nuckols. The revenue estimates were prepared by the staff of the Tax Analysis Division under the supervision of Rosemary D. Marcuss and Kathleen M. O'Connell. Paul N. Van de Water and Rosemary D. Marcuss were the principal authors of Chapter II and Appendixes A, D, and F. Charles J. Richardson prepared Appendixes B and E. Patricia Kinslow prepared Appendix C. Important contributions were also made by David Bashore, Andrew Haughwout, Kathy A. Ruffing, Valerie Amerkhail, Linda Radey, Robert Lucke, Stephen Porter, and Neil Fisher.

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SUMMARY

During 1984, the second year of recovery, inflation was moderate and economic growth very rapid, though the pattern of growth was uneven. In the first half of the year, the gross national product (GNP) grew at a near record pace for peacetime, and unemployment rates dropped sharply. At mid-year, however, GNP growth slowed much more sharply than anticipated. At the end of 1984, economic activity picked up again, and most advance indicators now seem to point to a continuation of moderate growth in 1985. The Congressional Budget Office (CBO) expects economic growth to average more than 3 percent over the next two years and unemployment to decline gradually, with only a fractional rise in inflation.

The most uncertain aspects of the short-run outlook relate to energy prices, inventories, exchange rates, and interest rates. Some analysts expect that the price of imported oil will decline more sharply than projected by CBO, a development that would have favorable effects on both inflation and output. Others expect a temporary slowdown in output during 1985 in response to excessive inventory accumulation. There is also a risk of higher interest rates stemming from strong private and public credit demands. In addition, if capital inflows should be reduced abruptly, because investment prospects improve abroad, the exchange value of the dollar would likely fall and domestic interest rates would rise further, as federal borrowing draws more heavily from domestic saving.

The uncertainty concerning the long-run outlook stems largely from the federal budget deficit. CBO projects that the total federal deficit (including off-budget outlays) will remain above 5 percent of GNP through 1990, if budget policies are not changed. The federal debt-to-GNP ratio will rise from 37 percent in fiscal year 1984 to 50 percent in 1990. Historical evidence provides little guidance for gauging the precise economic effects of peacetime deficits of such magnitude and duration, but they clearly imply adverse consequences for long-run standards of living.

CBO's economic projections through 1990, which underlie the budget projections, assume that the growth of the economy matches the average growth experienced in earlier postwar expansions. Of course, the economy's performance could exceed or fall short of the projections: if it did, the budget deficits would turn out to be higher or lower than indicated. But it is

exceedingly unlikely that the deficits will be eliminated or even reduced to low levels as a result of rapid growth alone.

CBO's latest budget estimates show a total budget deficit--including off-budget spending--of $214 billion this fiscal year, rising to $296 billion by 1990, if budget policies are not changed. Revenues are projected to rise about 10 percent this year, to $735 billion, and to continue rising slightly faster than GNP through most of the decade. (Revenues were 18.6 percent of GNP in 1984 and are projected to be 19.1 percent this year, rising to 19.4

SUMMARY TABLE 1. UNDERLYING ECONOMIC ASSUMPTIONS AND BASELINE BUDGET PROJECTIONS

	Actual 1984	1985	1986	1987	1988	1989	1990
Economic Assumptions (By calendar year)							
Real GNP, percent change	6.8	3.5	3.2	3.3	3.4	3.4	3.4
GNP Deflator, percent change	3.7	3.6	4.6	4.4	4.2	4.2	4.2
Civilian Unemployment Rate	7.5	7.1	6.9	6.7	6.6	6.4	6.2
3-Month Treasury Bill Rate	9.5	8.3	8.7	8.2	8.2	8.2	8.2
Budget Projections (By fiscal year, in billions of dollars)							
Revenues	667	735	788	855	934	1,005	1,088
Total Outlays a/	852	949 b/	1,003	1,088	1,183	1,276	1,384
Total Deficit	185	214	215	233	249	272	296
Percent of GNP	5.2	5.6	5.2	5.2	5.1	5.2	5.3

SOURCE: Congressional Budget Office.

a. Includes spending by off-budget entities, primarily by the Federal Financing Bank.

b. Includes $13 billion arising from one-time HUD purchases of federally guaranteed notes issued by local public housing authorities.

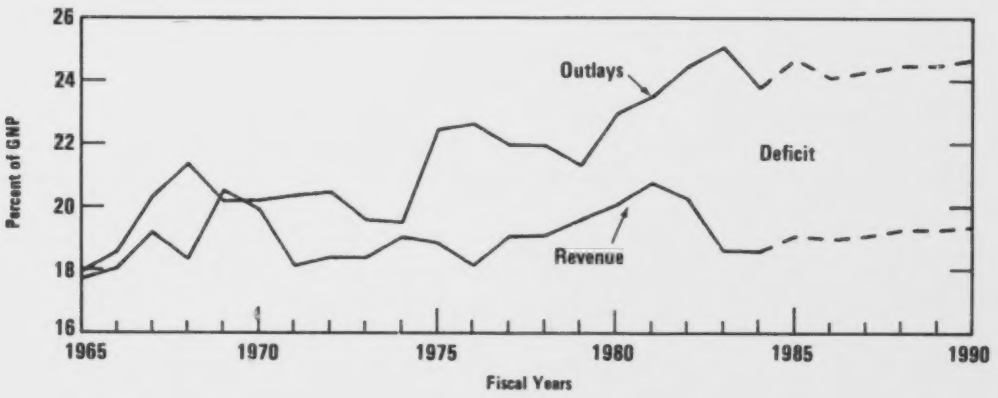
percent in 1990.) Total outlays--including off-budget spending--will be about $950 billion this year and will rise to $1,384 billion by 1990. In the 1985-1990 period, federal spending will fluctuate in a narrow range between 24.1 percent and 24.7 percent of GNP, close to the 1983 postwar record (see Summary Figure 1). Spending for defense and interest on the debt will rise rapidly relative to GNP during the projection period, while entitlements and nondefense discretionary spending will grow more slowly than GNP, given present budget policies.

RECENT ECONOMIC DEVELOPMENTS

The economy grew at a rapid 5.6 percent rate during the four quarters of 1984, only slightly less than in the first year of the recovery. But after expanding at an 8.6 percent average annual rate during the first half of the year, real GNP growth slowed more than anticipated to a 2.7 percent average annual rate in the second half of the year. Output for the calendar year was 6.8 percent above that of 1983 (see Summary Table 2). The unemployment rate declined a full percentage point in the first half of the year, but much less thereafter. The inflation rate was about 4 percent over the four quarters of 1984, similar to the previous year. Many factors contributed to the favorable price behavior. First, the continued rise of the dollar in international exchange markets reduced the price of imports and discouraged price increases for a range of domestically produced goods.

Summary Figure 1.

Revenues and Total Outlays



SOURCE: Congressional Budget Office.

SUMMARY TABLE 2. RECENT ECONOMIC INDICATORS (Percent change from previous period at seasonally adjusted annual rates, unless otherwise noted)

	1982	1983	1984	1984 Q1	1984 Q2	1984 Q3	1984 Q4
Real GNP	-2.1	3.7	6.8	10.1	7.1	1.6	3.9
Final sales	-0.7	3.2	5.0	3.6	10.3	-1.0	8.3
Consumption	1.4	4.8	5.3	4.6	7.9	0.7	3.9
Business fixed investment	-4.7	2.5	20.0	20.6	21.3	13.7	11.1
Residential investment	-15.0	41.7	12.4	21.3	1.2	-4.6	-1.7
Government purchases	2.0	-0.3	3.5	1.0	18.6	5.4	6.6
Inventory Change (billions of 1972 dollars)	-10.4	-3.6	24.2	31.6	20.3	30.6	14.2
Net Exports (billions of 1972 dollars)	29.7	12.6	-15.5	-8.3	-11.4	-27.0	-15.2
Industrial Production	-8.2	6.5	10.7	11.5	8.5	6.3	-0.7
Capacity Utilization (percent)	72.1	75.3	81.6	80.5	81.7	82.4	81.7
Payroll Employment (millions)	89.6	90.1	94.1	92.8	93.8	94.6	95.5
Civilian Unemployment Rate (percent)	9.7	9.6	7.5	7.9	7.5	7.5	7.2
Inflation Rate							
CPI-U	6.2	3.2	4.2	5.0	3.7	3.5	3.9
GNP deflator (fixed weight)	6.4	4.2	4.2	5.0	4.3	4.0	3.5
Productivity a/	-0.1	3.5	3.1	2.9	5.5	-1.1	1.7
Interest Rates (percent)							
Treasury bill rate	10.6	8.6	9.5	9.2	9.8	10.3	8.8
Corporate AAA bond rate	13.8	12.0	12.7	12.3	13.2	13.0	12.4

SOURCE: Compiled by the Congressional Budget Office, using data from U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Federal Reserve Board; Moody's Investors' Services.

a. Output per worker hour, nonfarm business sector.

Second, commodity prices were soft, reflecting weak worldwide demands. Third, U.S. production costs were held down by very moderate gains in real wages and by rapid productivity growth, relative to the experience of the 1970s and early 1980s.

In 1984, business fixed investment was particularly strong, rising much faster than in the first year of recovery. Defense purchases also made a significant contribution to GNP growth last year. Residential construction was strong early in the year but declined in the last two quarters. Consumer spending was strong early in the year, weakened in the third quarter, and rebounded at year-end.

The flagging trade sector was a severe drag on the economy throughout 1984. Many export and import-competing industries remained depressed even after two years of economic expansion, because the high value of the dollar in foreign exchange markets made it very difficult for them to compete. As explained in earlier CBO reports, the high dollar and the "crowding out" of net exports were very probably related in part to the large federal deficit; the deficit increased pressures on U.S. capital markets and was at least partially responsible for the record international capital inflows. 2/

Economic growth fell abruptly in the third quarter of last year in the wake of tight credit conditions. Both short- and long-term interest rates rose in the first half of the year, largely because of very strong business credit demands combined with heavy federal borrowing. The well-publicized problems of such financial institutions as Continental Illinois and Financial Corporation of America may have added to the risk premium that is incorporated in interest rates.

With final sales falling in response to tight credit conditions, business firms cut back orders and production in the third quarter to prevent inventories from becoming excessive. Retailers were particularly concerned about nondurable inventories; sales promotions during the Christmas season were reported to be exceptionally frequent, and as a result consumer spending responded with a sharp gain at year-end.

Conditions now appear to be set for an economic expansion sufficient to allow further declines in unemployment rates.

- Interest rates declined sharply in the last few months of 1984 in response to weaker private credit demands and to Federal

2. See Congressional Budget Office, *The Economic Outlook* (February 1984), pp. 79-95.

Reserve attempts to promote easier credit conditions. These reduced interest rates are expected to have a beneficial effect on housing activity and consumer spending this spring.

- Growth in personal income was strong in 1984, providing support for further gains in consumer spending.

- Strong business profits should boost spending on capital goods. According to the most recent investment survey, businesses are planning to increase real capital spending by 6.8 percent in 1985.

- While inventories may still be excessive in some sectors, the overall inventory-to-sales ratio is not exceptionally high, suggesting that inventories are not likely to be a pervasive barrier to faster growth in output in the months ahead.

THE ECONOMIC OUTLOOK

As in the past, the first two years of CBO's baseline economic projections are "conditional" forecasts, based on specific policy assumptions. The out-year projections are noncyclical trends, based on average historical growth rates that may or may not be consistent with present budget policies.

The Short-Run Forecast

The baseline forecast for 1985 and 1986 incorporates the following policy assumptions:

- Federal budget policies now in place are assumed to be unchanged. Total outlays--including off-budget spending--are expected to be $949 billion in fiscal year 1985 and $1,003 billion in fiscal year 1986, while revenues are expected to total $735 billion and $788 billion in these two years.

- The growth in the money aggregate M1 is assumed to be 5.5 percent from the end of 1984 to the end of 1985, the midpoint of the tentative target range announced by the Federal Reserve last July. Growth of M1 is assumed to be 5.0 percent during 1986.

In addition to these policies, the forecast is conditional upon the following price assumptions:

- The average value of the dollar in international exchange markets in 1985 is assumed to be about the same as in the previous year. This requires a modest decline in the first half of 1985, reversing the rise in the second half of 1984.

- The average price of imported oil (refiners' acquisition cost) is assumed to decline from about $29 per barrel in 1984 to about $27.50 per barrel in 1985 and 1986.

- Retail food prices are assumed to rise slightly less this year than in 1984 because of plentiful crops.

On the basis of these assumptions, real growth is now forecast to be 3.4 percent over the four quarters of 1985 and slightly less in 1986 (see Summary Table 3). The unemployment rate is expected to decline very gradually to 6.9 percent in 1986. The forecast calls for rapid gains in business fixed investment and for an upturn in residential construction later in 1985.

SUMMARY TABLE 3. THE CBO FORECAST FOR 1985 AND 1986

	Actual		Forecast	
	1983	1984	1985	1986
Fourth Quarter to Fourth Quarter (percent change)				
Nominal GNP	10.4	9.3	7.7	7.8
Real GNP	6.3	5.6	3.4	3.1
GNP Implicit Price Deflator	3.8	3.5	4.2	4.6
Consumer Price Index for Urban Consumers	3.3	4.0	3.9	4.5
Calendar Year Average (percent)				
Civilian Unemployment Rate	9.6	7.5	7.1	6.9
3-Month Treasury Bill Rate	8.6	9.5	8.3	8.7
Corporate Bond Rate Moody's AAA	12.0	12.7	11.7	11.3

The inflation rate, as measured by the GNP deflator, is projected to rise from 3.5 percent over the four quarters of last year to 4.2 percent in 1985 and 4.6 percent in 1986. The moderate increase is expected to come from diminishing economic slack and a halt to further appreciation of the dollar. But soft energy prices are expected to offset these pressures in part. The Treasury bill rate is seen as averaging 8.3 percent in 1985, down more than a percentage point from last year. A slight rise to 8.7 percent is expected in 1986. Slower growth in private credit demands in 1985 should contribute to lower rates. Nevertheless, interest rates will remain very high compared with their postwar history, especially in real terms, in large part because of record borrowing by the U.S. Treasury.

Sources of Uncertainty in the Economic Forecast

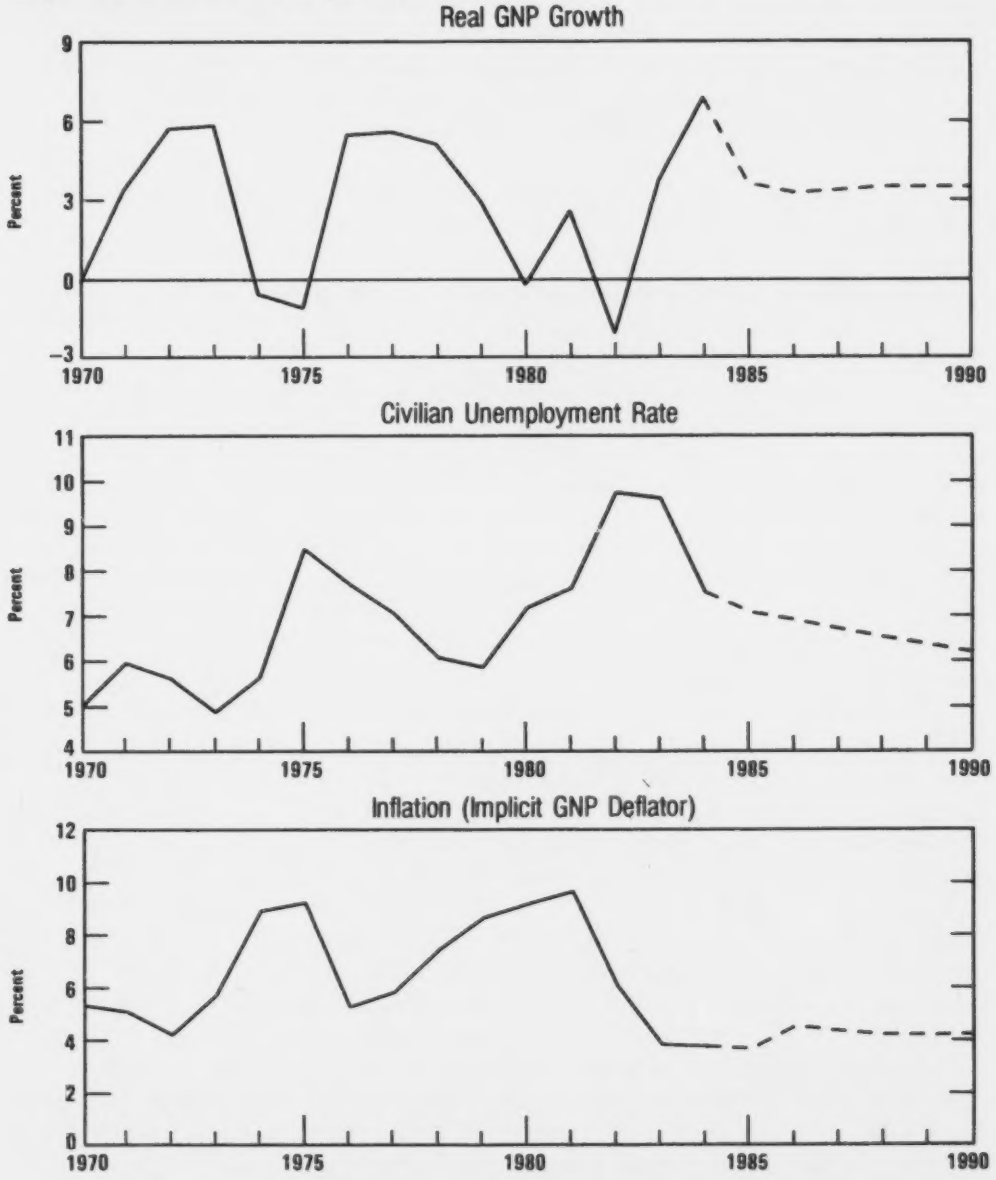
The economy's performance could easily turn out to be much better or worse than CBO's projections indicate. Appendix H contains an analysis of past forecast errors.

At present, the major uncertainties in the short-run forecast appear to be related to inventories, oil prices, and financial conditions. It was not clear at the beginning of the new year whether strong Christmas sales had trimmed inventories sufficiently, or whether some reduction in output growth would be necessary to bring inventories to desired levels. Should oil prices decline much more sharply than projected by CBO, as some expect, inflation could be substantially lower and real output higher. With respect to interest rates, some analysts expect that the strong government credit demands will be accompanied by sharp upturns in business and household demands for credit, which will lead to higher interest rates than those projected. Another financial risk would arise if, instead of remaining relatively stable as assumed in the CBO forecast, the dollar were to decline precipitously because of reduced capital inflows. Such a drop could lead to higher inflation because it would raise the prices of imports and import-competing goods; it would also result in higher interest rates, because of reduced capital inflows from abroad. Over time, of course, a lower dollar would improve the outlook for export and import-competing industries that have been hard hit by foreign competition.

Projections for 1987-1990

The CBO projection of GNP growth for the 1987-1990 period is not a conditional forecast (see Summary Figure 2). Instead, it is a smoothed growth path based on average historical experience. Specifically, the growth of GNP and of productivity from the fourth quarter of 1982 (the recession

Summary Figure 2.
Major Economic Assumptions



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Congressional Budget Office.

trough) to the fourth quarter of 1990 is precisely equal to the average growth rate in the eight-year period following earlier postwar recessions. The major characteristics of the projection are as follows:

- Real GNP growth averages about 3.4 percent a year, with productivity in the nonfarm sector averaging about 2.2 percent. Nominal GNP growth averages 7.7 percent a year.

- Inflation, as measured by the GNP deflator, averages 4.2 percent a year.

- The civilian unemployment rate declines slowly to 6.2 percent in calendar year 1990.

- The three-month Treasury bill rate averages 8.2 percent, or 4.0 percent after adjustment for inflation.

While such a growth rate is not theoretically inconsistent with the high budget deficits projected by CBO, its realization would require that foreign and domestic investors be willing to expand the holdings of Treasury securities in their portfolios sharply without a major rise in interest rates. Foreigners must also be willing to see their holdings of dollar-denominated assets rise rapidly over the entire projection period.

THE BUDGET OUTLOOK

Except for the current fiscal year, the budget outlook has not changed materially from CBO's projections last August. The projected total deficits for 1986-1989 are very close to those calculated six months ago. The 1985 total deficit estimate, however, has been raised by $23 billion--from $191 billion to $214 billion--largely because of lower anticipated revenues and a one-time increase in spending for purchases of federally guaranteed notes issued by local public housing authorities. Under CBO's latest baseline economic and budgetary assumptions, the total deficit--including off-budget spending--is projected to remain at the 1985 level in 1986 and then rise steadily toward $300 billion by 1990. Relative to GNP, however, projected total deficits for 1986-1990 under current laws and budget policies are fairly stable at around 5.2 percent (see Summary Table 1 on page xiv).

These projections assume that defense appropriations will increase as specified in the 1985 budget resolution (and extended to 1990), at an average rate of 5½ percent a year in real terms--after adjustments for projected inflation. If calculated on the basis of no real growth in defense appropriations--the convention used for projecting nondefense discretionary spending

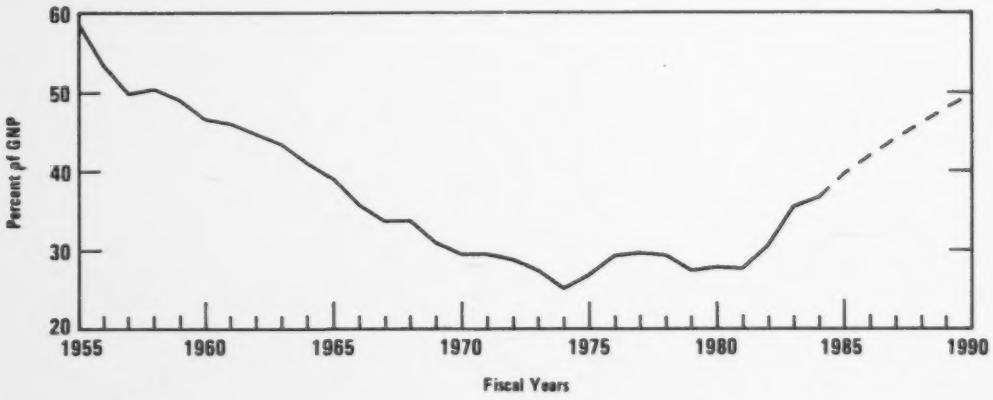
(see Chapter II)--total deficits would remain around $200 billion throughout the next five years, declining relative to GNP from 5.6 percent in 1985 to 3.5 percent by 1990.

Whatever assumption is made about defense spending, the projections indicate that federal borrowing needs will remain extremely large for an indefinite period. Under the assumptions made above, federal debt held by the public is projected to grow from $1.3 trillion at the end of fiscal year 1984 to $2.8 trillion by the end of 1990. Even if there were to be no real growth in defense appropriations, debt held by the public would reach $2.6 trillion by 1990. This rapid accumulation of debt, outpacing the growth in the economy by a wide margin, would raise the debt held by the public as a percentage of GNP from under 30 percent during the 1970s to nearly 50 percent by 1990 (see Summary Figure 3). An increase of this magnitude in the debt-to-GNP ratio has not occurred since World War II.

The swift accumulation of debt and relatively high interest rates have caused interest to be the fastest growing component of the federal budget. During the last 10 years, net interest costs have soared from $23 billion to about $130 billion--from 7.0 percent of total outlays in 1975 to 13.7 percent of total outlays in 1985. By 1990, according to CBO's projection, they would reach $230 billion or 16.6 percent of total outlays. In relation to GNP, net interest outlays have more than doubled in the past decade, rising from 1.6 percent of GNP in 1975 to 3.4 percent in 1985, and are projected to reach 4.1 percent by 1990 (see Summary Figure 4).

Summary Figure 3.

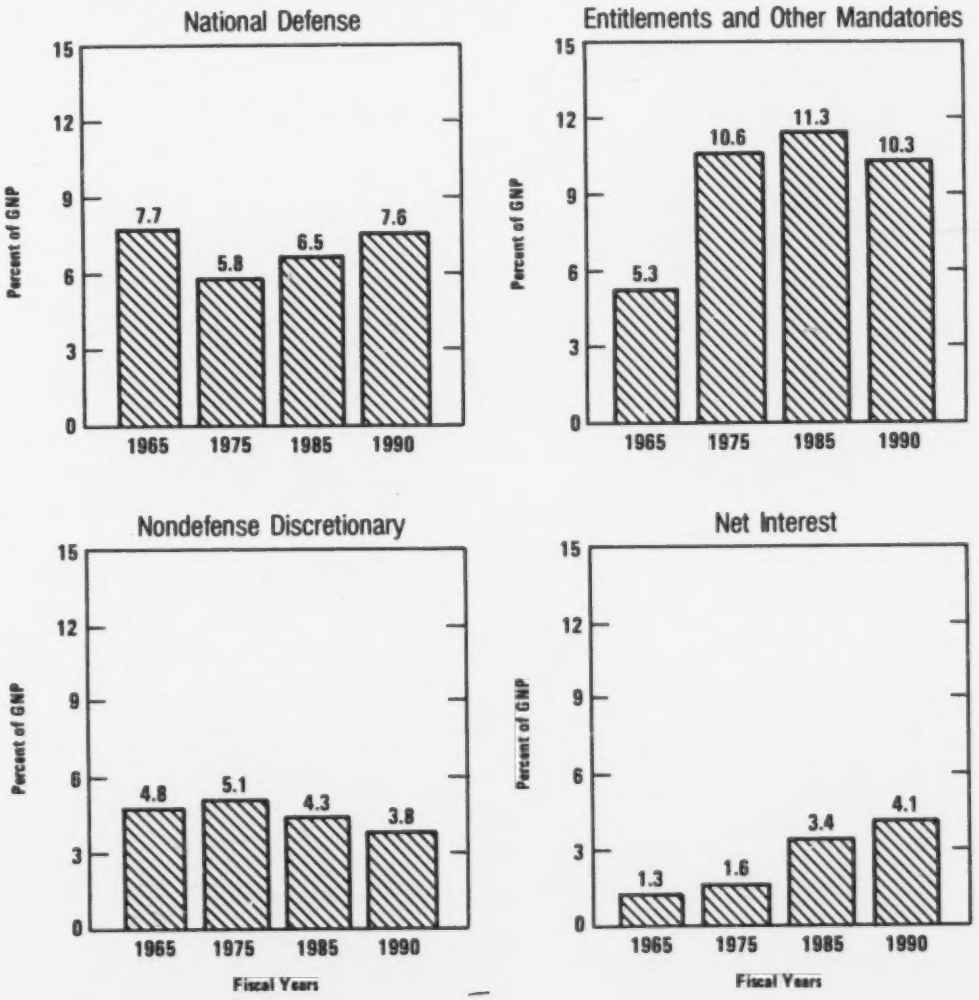
Federal Debt Held by the Public



SOURCE: Congressional Budget Office.

Assuming that defense appropriations rise in line with the 1985 budget resolution targets for 1986 and beyond, national defense outlays would increase by $172 billion during the next five years, from $252 billion in 1985 to $424 billion in 1990. The ratio of national defense outlays to GNP is projected to reach 7.6 percent by 1990, up a full percentage point from the 1985 level and almost two percentage points above the 1975 level, but still somewhat less than the 1965 level.

Summary Figure 4.
The Composition of Federal Spending



SOURCE: Congressional Budget Office.

Spending for entitlements and other mandatory programs under current law is projected to grow by $141 billion during the next five years, from $436 billion in 1985 to $577 billion in 1990. This growth, which is quite large in dollar terms, would be less than the projected growth of the economy. Consequently, entitlement outlays as a percentage of GNP would fall from 11.3 percent in 1985 to 10.3 percent in 1990--slightly less than the ratio reached in 1975. Under the assumption that nondefense discretionary spending is held constant in real terms, outlays for that component of the budget would continue to fall as a percentage of GNP, from 4.3 percent in 1985 to 3.8 percent in 1990. Total outlays for nondefense discretionary programs would increase by $43 billion, from $168 billion in 1985 to $211 billion in 1990, an amount that would be almost $20 billion less than projected net interest costs.

THE LONG-RUN CONSEQUENCES OF PERSISTENT DEFICITS

What would be the effect on the economy if large budget deficits were to persist into the next decade? While precise quantitative estimates of the impact of deficits cannot be provided, economic theory and historical experience suggest that the long-run detrimental effects could be significant:

- U.S. government debt would supplant more and more private equity and debt in the portfolios of private investors, thereby "crowding out" private investment projects that otherwise would have been undertaken. Over time this would have significant effects on the size of the private capital stock, and in a decade or so the growth of productivity--the source of rising living standards--would begin to suffer.

- The crowding out of private investment could be mitigated and even eliminated entirely by inflows from international capital markets. But that implies a growing net debt owed to foreigners. Thus, while U.S. production could be maintained at higher levels than would be possible without the inflows, U.S. residents would face a steadily increasing burden related to growing net interest and dividend payments abroad.

- Federal spending to pay interest on the debt would rise dramatically. This would limit resources available for other spending programs. The larger the debt, the more sensitive total spending becomes to changes in interest rates. Also, should interest rates exceed GNP growth for a substantial period of time, the rise in the interest bill could become explosive, leading to an ever-increasing debt-to-GNP ratio.

- If the debt became so large that the program cuts or tax increases necessary to offset the growing interest burden were not politically feasible, pressures might be placed on the Federal Reserve to purchase a high proportion of the debt in an attempt to hold down interest rates. In some countries, such "monetizing" of the national debt has led to hyperinflation. The U.S. budget situation does not now seem nearly that severe, and it seems reasonable to attach a very small probability to such an outcome. Nevertheless, the consequences of such an outcome could be so devastating that the possibility should not be ignored entirely.

THE SHORT-RUN IMPACT OF CORRECTIVE MEASURES

Although a vast majority of the economics profession argues that deficits should be cut, some worry that large and abrupt spending cuts or tax increases might weaken the economy in the short run. Most options now being considered, however, would phase in deficit reduction measures gradually. The potential adverse economic impact would also be limited by these factors:

- A reduction in budget deficits could reduce foreign capital inflows and thus put downward pressure on the dollar in international exchange markets. If the dollar declined, the U.S. net export position would improve over time, thereby at least partially offsetting the contractionary effects of deficit reduction measures on domestic demand.

- Monetary policy could, in theory, largely offset any short-run adverse effects of deficit reduction measures on domestic demand.

- The financial community has expressed so much concern over the high deficits that any effort to correct them should have a salutary effect on investors' confidence in the long-run health of the economy, and thereby stimulate long-term investment.

CHAPTER I

THE ECONOMIC OUTLOOK

During 1984, the economy grew at a very rapid but uneven pace, and unemployment declined markedly. While growth had been expected to moderate in the second half of the year, the slowdown in the third quarter was much sharper than anticipated. Activity increased in the fourth quarter, however, and at the beginning of 1985 conditions appear to favor a continuation of moderate growth: the economy is still operating below full capacity production levels; inflation remains moderate; and credit conditions have eased considerably since last summer.

Accordingly, the CBO forecast shows economic growth averaging between 3 percent and 3.5 percent during the next two years, sufficient to bring down the unemployment rate gradually without a substantial rise in inflation rates and with interest rates remaining slightly below their 1984 average levels.

RECENT ECONOMIC DEVELOPMENTS

The year appears to have marked a transition from rapid economic recovery to a more sustainable pace of growth. While potential trouble spots remain, particularly in inventories, the foreign trade sector, and federal borrowing requirements, the fundamental conditions for growth seem intact.

Aggregate Activity and Labor Markets in 1984

Real gross national product grew at a rapid 5.6 percent rate during the four quarters of 1984, the second year of the current recovery. That was only slightly less rapid than during the previous year (6.3 percent). On a year-over-year basis, the growth rate, 6.8 percent, was the highest in more than 30 years. After expanding at an average 8.6 percent pace during the first two quarters, however, economic growth slowed to 1.6 percent in the third quarter before picking up to a 3.9 percent rate in the fourth quarter (see Table I-1). Industrial production slowed more persistently during the year,

to a 2.7 percent growth rate in the third and fourth quarters after a near 10 percent rate in the first half of the year.

Several factors helped to produce the unusually strong growth in the first half of 1984:

- Federal Reserve policy, as measured by growth in money aggregates, was generally accommodative from mid-1982 until mid-1984.
- Fiscal policy continued to be stimulative in fiscal years 1983 and 1984 with the phased-in reductions in personal taxes, the Accelerated Cost Recovery System of tax incentives for business investments, and the buildup in defense purchases.
- Demands for consumer durable goods remained quite strong because of sharply rising disposable personal income. Pent-up demand, remaining after the prolonged period of slow growth in the early 1980s, which included two recessions, also fueled the expansion.

TABLE I-1. RECENT MEASURES OF AGGREGATE ECONOMIC ACTIVITY (Percent change from previous period at seasonally adjusted annual rates, unless otherwise noted)

			1983	1984			
	1983	1984	IV	I	II	III	IV
Real GNP	3.7	6.8	5.9	10.1	7.1	1.6	3.9
Real Final Sales	3.2	5.0	4.2	3.6	10.3	-1.0	8.3
Industrial Production	6.5	10.7	10.1	11.5	8.5	6.3	-0.7
Payroll Employment	0.6	4.4	5.9	4.9	4.4	3.3	3.9
Civilian Unemployment Rate (percent)	9.6	7.5	8.5	7.9	7.5	7.5	7.2

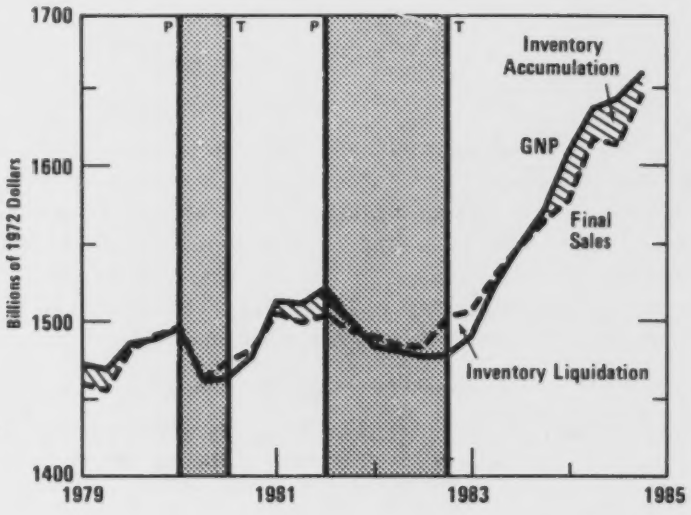
SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Federal Reserve Board; Congressional Budget Office.

By the third quarter of 1984, however, the forces propelling growth had diminished. This slowing of the economy in the third quarter of the year reflected reduced growth in household and business demands, and further deterioration in net exports caused by a very strong surge in imports. The high value of the dollar meant that a large and growing volume of lower-priced imports curbed the growth in sales of domestically produced goods. High interest rates also curbed growth in other interest-sensitive sectors, particularly housing. Despite slower output growth, business inventories continued to accumulate at a very rapid pace in the third quarter, and some sectors of the economy reportedly held more inventories than desired (see Figure I-1).

Final sales recovered sharply in the fourth quarter to an 8.3 percent rate (in real terms). Most of the improvement reflected a decline in the growth of imports from the very high level reached in the third quarter. In addition, consumption also rose more strongly than in the third quarter. The strong growth in final sales in the fourth quarter appears to have helped correct the inventory overhang. Excessive inventories did not appear to be pervasive at the end of the year. Moreover, as noted previously, overall inventory-to-sales ratios remained low by historical standards.

Unemployment. Labor market developments in large part reflected trends in production. Employers continued to add to payrolls at about a 3½ percent rate in the second half of 1984 compared with a near 5 percent rate in the

Figure I-1
GNP, Final Sales and Inventories



SOURCES: Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

first half of the year. After declining a full percentage point in the first half of the year to 7.5 percent, the civilian unemployment rate declined only slightly in the second half to 7.2 percent in the fourth quarter.

All major groups in the labor force seem to have benefited from the strong growth in employment last year. The unemployment rate for white workers fell by almost a full percentage point from December 1983 to December 1984, and that for black workers by almost three percentage points (see Table I-2). Still, the unemployment rate for blacks remained almost 2¼ times that for whites. 1/ Black teenagers, in particular, continued to have by far the highest unemployment rate of any group--42 percent in December. Unemployment rates for both adult males and adult females declined about one percentage point from December 1983 to December 1984; at year-end, their unemployment rates were practically the same. (In the postwar period, except in recessions, the unemployment rate for females has generally exceeded that for males.)

Productivity. Productivity growth over the four quarters of 1984 slowed to a 2.2 percent rate from 3.9 percent in the previous year. Its growth has been about the same in this recovery as for a typical postwar recovery (see Figure I-2). Because productivity was very poor in the latter half of the 1970s and early 1980s, some observers find this encouraging. But those who had expected productivity growth to return to historical rates before the 1970s were disappointed. To a large extent, the real test will come later, after the upswing has slowed. That was the stage at which productivity performance deteriorated in the late 1970s, after the recovery from the 1974-1975 recession.

Inflation in 1984

Inflation remained relatively flat during 1984, despite continued reduction in economic slack (see Table I-3). In the first quarter of 1984, both the Consumer Price Index and the broader GNP fixed-weight deflator increased at a 5 percent rate, but then decelerated to between 3.5 percent and 4.5 percent in the remainder of the year. Several factors contributed to the good price performance last year. First, wage increases remained very moderate. Second, oil prices weakened (see discussion below). Third, high

1. Black unemployment has been on an upward trend compared to white unemployment. In December of last year, the black unemployment rate at 15.0 percent was approximately the same as it was in May 1975, when unemployment peaked in the 1973-1975 recession. By contrast, the rate for whites at 6.2 percent was more than two percentage points below its level in May 1975.

TABLE I-2. SELECTED UNEMPLOYMENT RATES BY DEMOGRAPHIC AND INDUSTRY GROUPS (Seasonally adjusted, in percent)

Group	December 1982 a/	December 1983	December 1984
All Civilian Workers	10.7	8.2	7.2
Demographic Groups			
Adult men	10.0	7.4	6.3
Adult women	9.1	7.2	6.4
Teenagers	24.3	19.9	18.8
White	9.6	7.1	6.2
Black	20.9	17.8	15.0
Adult men	20.7	15.1	13.3
Adult women	16.7	15.9	12.7
Teenagers	49.1	49.0	42.1
Hispanic	15.5	11.6	10.2
Goods-Producing Industries			
Mining	18.2	12.4	10.7
Construction	21.6	16.3	13.7
Manufacturing	14.2	8.3	7.2
Durables	16.1	8.3	7.2
Nondurables	11.4	8.2	7.2
Agricultural wage and salary workers	16.3	15.6	12.2
Service-Producing Industries			
Transportation and public utilities	8.0	6.5	5.0
Wholesale and retail trade	11.1	8.8	7.5
Finance and service	8.0	6.6	5.9
Government	5.3	5.0	4.4

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; Congressional Budget Office.

a/ Month corresponding to the highest unemployment rate in the recession of 1981-1982.

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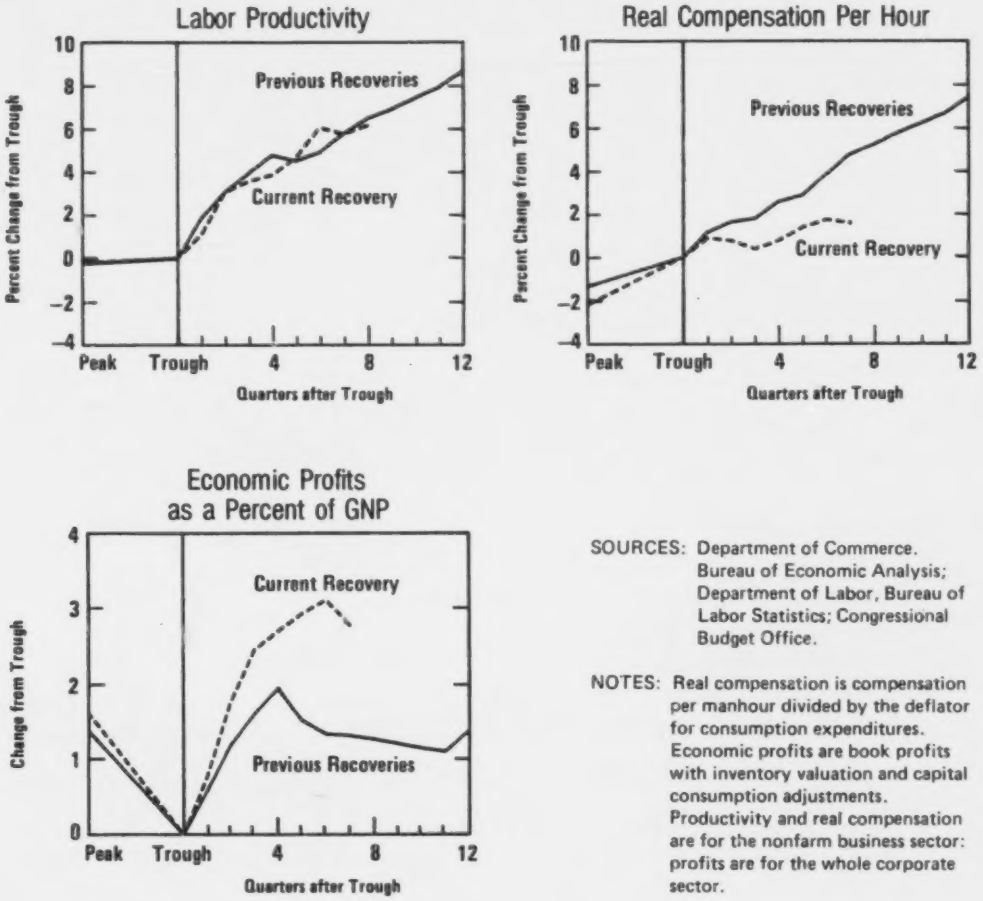
dollar exchange rates had a dampening effect on prices of imported and import-competing goods. The trade-weighted value of the dollar rose by 6.5 percent in 1983 and by another 13.0 percent in 1984 (on a fourth-quarter-to-fourth-quarter basis). Finally, the rise in productivity (about 2.2 percent during 1984), combined with low wage increases, meant lower increases in unit costs of production. Moderate wage increases, together with relatively good productivity performance, have contributed to rapid gains in corporate profits without higher inflation (see Figure I-2).

Figure I-2

Productivity, Real Wages and Profits in Recession and Recovery



SOURCES: Department of Commerce, Bureau of Economic Analysis; Department of Labor, Bureau of Labor Statistics; Congressional Budget Office.

NOTES: Real compensation is compensation per manhour divided by the deflator for consumption expenditures. Economic profits are book profits with inventory valuation and capital consumption adjustments. Productivity and real compensation are for the nonfarm business sector: profits are for the whole corporate sector.

Given the rapid growth in production, the 1.0 percent growth rate in real compensation per hour in the first three quarters of 1984 was unusually modest. As shown in Figure I-2, real compensation per hour has grown much more slowly in the current recovery than it has on the average after other postwar recessions. While a number of factors played a role, of particular importance have been import competition and the persistence of relatively high unemployment. A second notable change is in the pattern of wage changes. During the 1970s, real wage increases among high-wage production workers were relatively insensitive to the business cycle. 2/ However, the recession of 1982, during which the unemployment rate rose to a 40-year

TABLE I-3. RECENT MEASURES OF INFLATION (Percent change from previous period, annual rate)

	1983	1984	1983 IV	1984 I	1984 II	1984 III	1984 IV
Consumer Price Index (all urban consumers)	3.2	4.2	4.5	5.0	3.7	3.5	3.9
Stripped CPI a/	4.8	4.3	4.7	3.7	4.1	5.2	4.7
Producer Price Index for Finished Goods	1.6	2.1	1.5	4.4	1.4	0.6	0.5
GNP Deflator (fixed weight)	4.2	4.2	3.9	5.0	4.3	4.0	3.5

SOURCES: U.S. Department of Labor, Bureau of Labor Statistics; U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

a. The stripped CPI is the Consumer Price Index for all urban consumers less the food at home, energy, and used car components.

2. For a discussion of wage momentum, see earlier CBO reports, including *Inflation and Growth: The Economic Policy Dilemma* (1978), pp. 33-52, and *The Prospects for Economic Recovery* (1982), pp. 66-87.

high, seems to have had a major dampening effect on wage increases. (The outlook for inflation is discussed further below.)

The Composition of Demand in the Current Recovery

In some respects, the composition of demand in this recovery has been typical. In its first year, the recovery was led by residential investment, a turnaround in business inventory investment, and consumer spending on durable goods such as automobiles. In 1984--the second year of recovery--growth in residential investment slowed dramatically but business fixed investment accelerated very strongly. A major departure from the usual pattern has been the marked decline in net exports. 3/

Inventories. The increase in inventory investment has been stronger than average for postwar cycles. Inventory investment turned positive in mid-1983; since then, accumulation has proceeded at a very rapid pace (see Figure I-3). The overall inventory-to-sales ratio in the second half of last year does not, however, appear high by historical comparison. When growth in final demands slowed sharply in mid-1984, the rapid buildup in inventories caused some scaling back in production levels, thus contributing to the pause in real GNP growth. The resumption of rapid growth in final sales in the fourth quarter sharply cut the rate of inventory accumulation. Some analysts, noting the similarity of the quarterly patterns in inventories and imports--for instance, the decline of both inventory investment and imports in the fourth quarter--have speculated that the buildup in inventories consisted largely of imported products. While this cannot be confirmed by the data, it would not be surprising if retailers, in particular, placed too many orders for imported goods early in 1984 when there was so much optimism.

Inventory investment, though, must be considered an uncertain factor in the short-run economic outlook. The buildup of inventories late last year seems to have been most severe in the nonfood, nondurable goods retail trade sector. A good many retailers reported that inventories were excessive and initiated widespread price-cutting during the Christmas season. At the time of writing, it was not certain whether retailers had succeeded in reducing their inventories to satisfactory levels. If growth in

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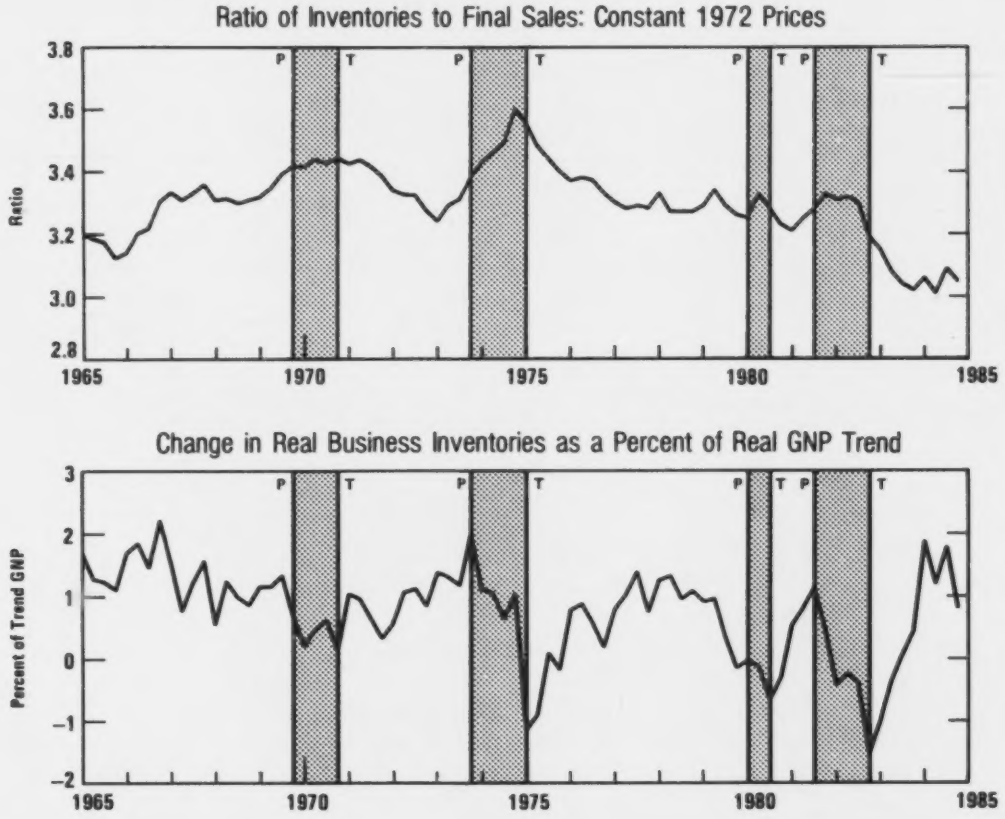
3. While imports normally grow approximately twice as fast as GNP in the early stages of recovery, this time they grew roughly four times as fast. For a discussion of the crowding-out effects of large fiscal deficits, see Chapter III of this report, and Congressional Budget Office, *The Economic and Budget Outlook: An Update* (1984), pp. 13-27.

final sales continues to be strong in early 1985, inventory investment should not be a major negative factor in the near-term outlook for growth.

Business Fixed Investment. Capital spending has grown more rapidly in the current recovery than on average during past recoveries. It grew at about a 20 percent real rate during the first half of 1984, but slowed in the second half of the year to about a 12 percent rate. While the level of gross investment as a percentage of GNP has been exceptionally strong, the level of net investment has not been as outstanding (see Figure I-4). Depreciation of capital has grown especially rapidly in recent years, in part because much

Figure I-3
Recent Trends in Business Inventories



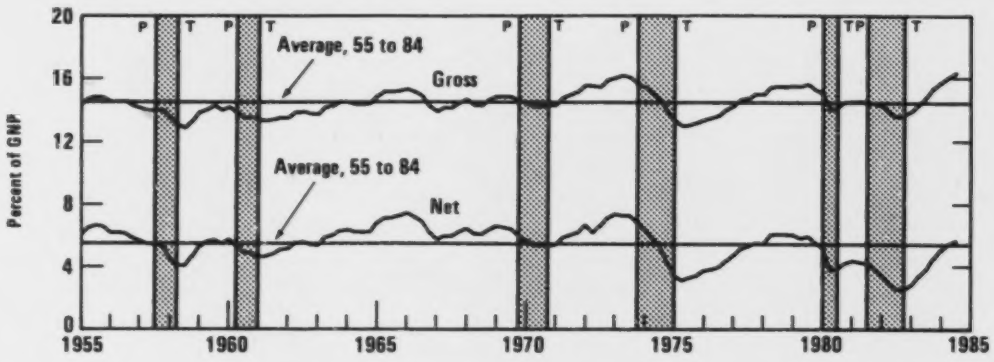
SOURCES: Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

investment has been concentrated in shorter-lived assets. 4/ Of the two measures, net investment is the more important for future economic growth, since net investment means net additions to the capital stock.

Residential Investment. As it usually does, residential investment expanded very rapidly in the early phases of the 1983 recovery. In 1984, however, housing starts leveled off at a fairly low level--about 1.6 million in the second half of the year--suggesting that recovery in the residential sector may not be complete. Many analysts expect residential construction to pick

Figure I-4

Real Business Fixed Investment



SOURCES: Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

NOTE: Investment and GNP are in constant 1972 prices. Net investment is gross investment minus economic depreciation.

4. Investment is believed to have become concentrated in shorter-lived assets for several reasons. One is the tax system, which favors equipment over structures. (Most business equipment qualifies for the investment tax credit, but not structures.) Another reason may be the nature of new technology, especially computers which have very short economic lives. Finally, some economists believe that greater uncertainty in the economic situation has caused businesses to concentrate their investment dollar in projects that have quick returns.

up this spring because of the decline in interest rates toward the end of last year. Housing starts already seem to have stopped falling, and new home sales seem to be strengthening in response to more favorable credit conditions.

Consumption. Real consumer spending added strongly to economic growth through the second quarter of last year. Pent-up demands for consumer durables, such as automobiles and household appliances, as well as the strong increases in disposable personal income and in household wealth helped to propel higher consumer spending. Consumer spending slowed sharply in the third quarter of 1984, however, as income grew more slowly and as the personal saving rate increased (to 6.3 percent from 5.7 percent in the second quarter). Stronger growth in incomes in the fourth quarter, together with a constant saving rate, meant a resumption of moderate consumption growth.

Looking ahead, a continuation of moderate growth in consumer spending seems likely. Real disposable personal income continued to increase in the second half of 1984 at a 3.9 percent rate, reflecting continued employment gains and moderate inflation. Real household net worth apparently held at a relatively high level in the fourth quarter. Measures of consumer confidence, however, declined somewhat toward the end of the year. Consumer installment debt as a percentage of disposable personal income reached relatively high levels by year-end.

Net Exports. An unusual development in the current recovery has been the major deterioration in the international trade balance (see Figure I-5). Net exports have fallen dramatically--primarily because of a very rapid growth in imports. When the U.S. economy grows faster than its principal trading partners, imports tend to grow more rapidly than exports. This time the effect has been heightened by the strength of the dollar. In addition, some categories of exports such as farm commodities have been severely affected by the high dollar. Movements in net exports were a major factor behind the sudden slowing of the economy in the third quarter of last year, and the resumption of growth in the fourth quarter.

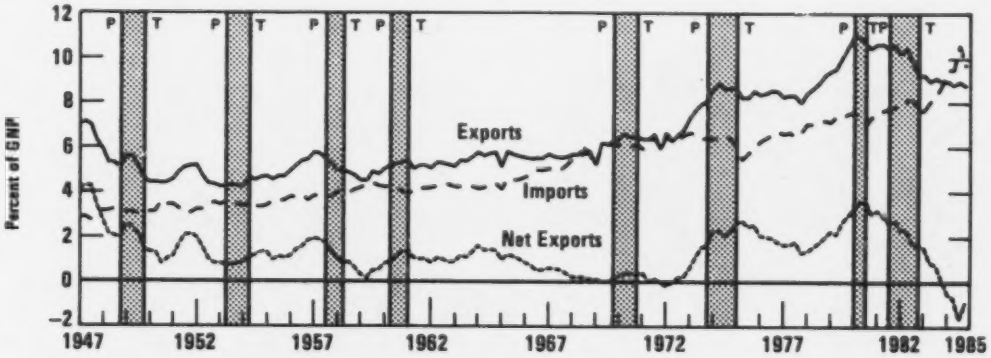
The trade sector is expected to remain a drag on the economy during the year ahead. Given the recent increases in the value of the dollar and the time required for any decline in exchange rates to affect the trade account, net exports seem likely to decline further this year, though not at the rapid pace of the second half of last year. In 1984, the U.S. economy grew roughly 3.5 percentage points faster in real terms than did the rest of the industrial world, and roughly 4 percentage points faster than much of the developing world. The differences in growth rates seem likely to narrow

considerably this year, largely because of lower U.S. growth, and this may moderate the decline in net exports. Economic growth among U.S. trading partners is not expected to be particularly strong this year.

Government Purchases. Total government purchases of goods and services, excluding operations of the Commodity Credit Corporation (CCC), expanded at less than a 2 percent real rate in 1983 and at about a 4.2 percent rate in 1984. 5/ Federal purchases showed a continuing increase in defense spending. Defense purchases grew at about a 5.3 percent rate over the four quarters of 1983, and at about a 6.7 percent rate during 1984. Nondefense purchases, less operations of the CCC, rose at about a 2 percent rate in 1984. Under current policies, overall federal purchases are projected to continue rising moderately, with the shift in composition from nondefense to defense continuing. At the state and local level, real government purchases were relatively flat during 1983, but increased at a 3.5 percent rate during 1984.

The surplus of state and local governments reached a record level of approximately $50 billion last year--1.4 percent of GNP. The surplus, which is equal to the difference between receipts and outlays, contributes to the level of national saving. Most of the surplus, however, is associated with

Figure I-5.
Imports, Exports and Net Exports



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

5. Purchases and sales by the Commodity Credit Corporation cause sharp short-term gyrations in nondefense purchases. These changes, however, have little significance for the size of GNP, since a reduction in CCC inventories is matched by a rise in private-sector inventories.

the pension funds of the employees of state and local governments. Many economists believe that these pension funds are, to a large extent, substitutes for other private savings. To the extent that this is true, the trust funds do not offset the effect of federal deficits on saving. As receipts grew and spending lagged, the much smaller operating surpluses increased even more rapidly in 1983 than is usual during the early phases of an economic recovery. There are some indications, however, that the cyclical recovery in operating surpluses may have run its course (see box below and Table I-4).

THE STATE AND LOCAL GOVERNMENT SURPLUS

The overall surplus of states and local governments has increased significantly during the current upswing, thus helping to offset the extraordinarily large borrowing requirements of the federal government as well as growing demands for credit by the business sector. Preliminary data indicate that in 1984 the overall surplus amounted to $52 billion or roughly 30 percent of the federal deficit (on a national income account basis), compared with 25 percent in 1983 and 22 percent in 1982. This ratio, however, is well below that of the 1970s when the state and local surplus averaged 53 percent of the federal deficit. Even if the state and local surplus remained at its 1984 percentage of GNP throughout the forecast period, it would not offset more than 30 percent of CBO's projected 1990 federal deficit.

In the National Income and Product Accounts, the overall surplus of states and localities consists of two parts: a trust fund surplus (which increases steadily over time) and an operating (other fund) surplus (which fluctuates with business cycles). In 1984, the trust funds accounted for 82 percent of the overall surplus of the state and local sector. The trust fund surplus mainly represents pension fund reserves that reduce the need for private retirement savings; to the extent that they are regarded as a substitute for personal saving by state and local employees, the statistics overstate the net contribution of these balances to national saving.

The operating surplus of states and localities reached a near-record high of $13.4 billion in the first quarter of 1984, but plummeted to $4.3 billion in the third quarter. In part, this decline reflected lower federal grants-in-aid. It is improbable that the operating surplus of states and local governments will soon return to the extraordinary levels experienced early last year, which reflected sharp spending reductions and large tax increases in the states and localities. Political pressures are likely to work in the long run to keep these balances at moderate levels.

Financial Markets and Monetary Policy

Although interest rates, especially inflation-adjusted real rates, remain stubbornly high by historical standards (see Figure I-6 and following box), easing of credit conditions late last year has considerably improved the prospects for growth in 1985. Short-term rates, which rose throughout the first three quarters of 1984, fell sharply in the fourth quarter and are now at year-end 1982 levels. Long-term rates, which had peaked earlier than their short-term counterparts, have also dropped but by somewhat smaller amounts, thus increasing the steepness of the yield curve (see Table I-5 and Figure I-7).

The interest rate decline reflects lower private credit demands owing, in part, to the slowdown in economic growth and a reduction in the pace of corporate mergers in the second half of last year. A change to a more accommodative posture by the Federal Reserve in the wake of anemic money growth in the third quarter of 1984 was probably also a factor in lowering interest rates. In addition, risk spreads among different securities in the short-term markets (as measured by the rate for three-month certificates of deposit less the rate for three-month Treasury bills) have declined since last summer as the problems of Continental Illinois and

TABLE I-4. STATE AND LOCAL GOVERNMENT SURPLUS

	1970s	1980	1981	1982	1983	1984
			Billions of Dollars			
Total Surplus (+)	14.9	30.6	37.6	32.9	44.1	52.0
Trust fund surplus	13.5	27.0	29.8	33.7	37.5	42.6
Operating surplus	1.4	3.5	7.8	-0.8	6.6	9.5
			Percent			
Total Surplus						
Percent of GNP	0.9	1.2	1.3	1.1	1.3	1.4
Percent of federal deficit	0.53	0.50	0.59	0.22	0.25	0.30

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

DEREGULATION, INTEREST RATES, AND THE ECONOMY

Despite the recent declines in interest rates, both real and nominal rates remain stubbornly high by historical standards. One reason often cited is the deregulation of financial institutions (see Appendix G). While the removal of deposit and mortgage usury ceilings has allowed interest rates in some previously regulated markets to rise to levels heretofore unseen, it is less clear whether deregulation provided the impetus for a generalized increase in rates. Other reasons put forward include: restrictive monetary policy, large and persistent federal deficits, unprecedented levels of government debt, and the increased risk stemming from fluctuations in money growth or interest rates and from changes in tax laws. All of these explanations have their proponents with varying degrees of support.

Some analysts argue that deregulation increased deposit costs, which were subsequently passed on to bank loan customers. They also point out that, because of deregulation, competition for the available supply of funds has increased, leading to higher interest rates. These arguments have been countered by those who say that higher deposit interest costs may have been at least partially offset by lower noninterest deposit costs, and that the competition for unregulated nondeposit funds would have raised the costs of financial institutions even in the absence of deregulation: the combination of high market rates of interest in recent years and interest rate ceilings would have forced banks to resort to nondeposit sources of funds. Some economists would also contend that deregulation, by providing small savers with market rates of return, may have made the aggregate supply of funds slightly more plentiful. These analysts see deregulation as a regulatory response to other market forces that have been pushing up interest rates, rather than as the cause of the higher rates itself.

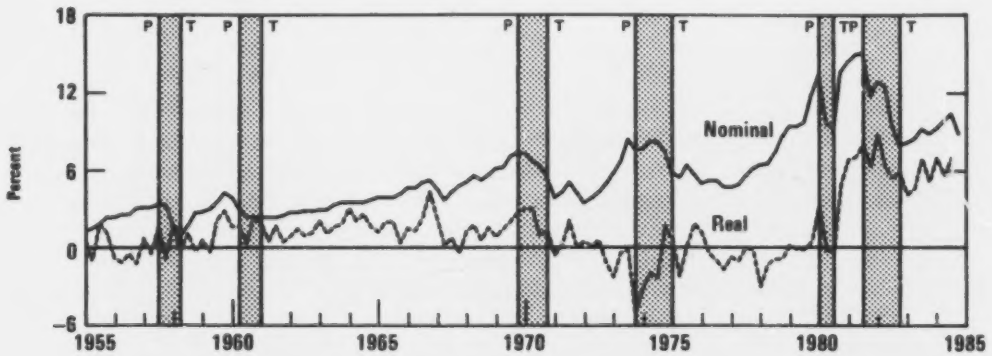
One less controversial aspect of deregulation has been its effect on housing. The removal of Regulation Q and mortgage usury ceilings has meant that deposit flows to financial institutions and mortgage flows from these institutions now respond more to market interest rates, rather than to nonprice credit allocation which played a much larger role in the past. In times of high or rising interest rates, housing demand is curbed more gradually by the rising cost of mortgage loans, rather than by their becoming unavailable. As a result, new housing construction should hold up better in the face of rising interest rates than was the case in the past.

Financial Corporation of America appear to have been adequately addressed (see Figure I-7).

Despite the easing of financial conditions in the second half of 1984, potential trouble spots remain. By year-end, the developing-country debt situation seemed to have improved; it could, however, become more serious again if real GNP growth in the industrial world were to seriously slacken. Domestically, loan problems are comparatively widespread in some types of agriculture and energy production. The loan problems of agriculture, in particular, tend to be regionalized; and they could have serious implications for local banks with large portfolios of farm and other agribusiness loans.

Credit Demands. As the accompanying table shows, growth of private nonfinancial-sector debt slowed in the third quarter of last year from its rapid pace in the second quarter. This slowdown reflected a reduction in demand for household consumer installment credit as the economy weakened; it also reflected slowing in corporate demands, partly because of a decline in merger-related financing. At the same time, growth in public-sector debt has accelerated as federal debt continued to expand at a rapid pace. State and local debt also increased sharply in the third quarter from a very low second-quarter pace (see Table I-6).

Figure I-6
Three-Month Treasury Bill Rates



SOURCES: Federal Reserve Board; U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

NOTE: Real interest rates are calculated by subtracting from the nominal interest rate the rate of inflation in the succeeding quarter. This value, the "ex post real rate," is a proxy for the unobserved real rate, which is the nominal rate less expected inflation over the life of the instrument. The inflation rate used is that of the consumption deflator.

The projected improvement in economic growth in 1985, from the pace in the second half of 1984, should be accompanied by an increase in private credit demands. The growth is not expected to be so rapid, however, as to lead to acute credit shortages or sharply rising interest rates, if foreign capital inflows remain strong. Public-sector credit demands will, however, likely be greater in 1985 than last year, raising the prospects for interest-rate increases, especially toward year-end.

Monetary Policy. By most measures, monetary growth was relatively stable throughout 1984. Both M1, the most widely watched indicator of monetary policy, and M2 fluctuated within their respective 1984 target ranges. But M3 hovered just beyond the upper target bound for most of the year, before accelerating at year-end, and total nonfinancial-sector debt stayed well above its monitoring range throughout 1984 (see Figure I-8).

Although M1 growth never dropped below its target range on a monthly average basis, slow money growth in the second half of 1984, together with a weakening economy and a continued low inflation rate, prompted a series of easing moves by the Federal Reserve. In the fourth

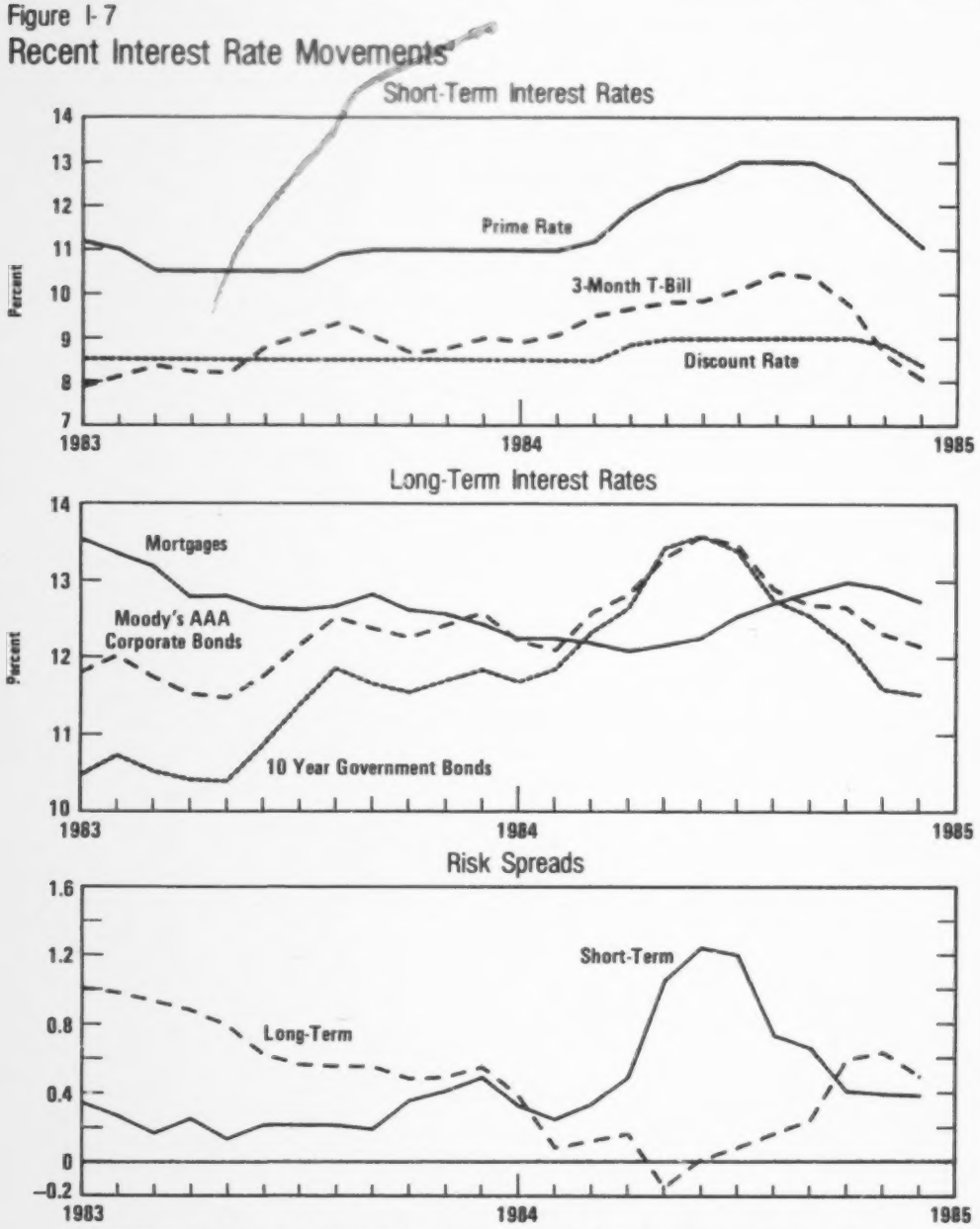
TABLE I-5. RECENT MEASURES OF INTEREST RATES AND EXCHANGE RATES

			1983	1984				
	1983	1984	IV	I	II	III	IV	Dec.
Interest Rates (percent)								
Treasury bill rate	8.6	9.5	8.8	9.2	9.8	10.3	8.8	8.1
Corporate AAA bond rate	12.0	12.7	12.4	12.3	13.2	13.0	12.4	12.1
Exchange Rate (percent change from previous period) a/	7.6	10.4	1.2	1.1	0.9	6.8	3.9	3.0

SOURCES: Moody's Investors' Services; Federal Reserve Board; Congressional Budget Office.

a. Trade-weighted value of the dollar.

Figure I-7
Recent Interest Rate Movements



SOURCES: Federal Reserve Board; Federal Home Loan Bank Board; Congressional Budget Office.

NOTE: The short-term risk spread is the difference between three-month certificates of deposit and three-month Treasury bills. The long-term risk spread is the difference between Moody's AAA corporate bond yield and the yield for 20-year Treasury securities.

quarter, it began injecting additional reserves into the banking system, thus reducing the banks' need to borrow from the discount window and easing the pressure in the federal funds market. In late 1984, the Federal Reserve lowered the discount rate in two steps from 9 percent to 8 percent.

In July, the Federal Reserve announced tentative targets for 1985, holding the ranges for the broader aggregates M3 and debt at their 1984 levels and lowering the upper bound on M1 by one percentage point and on M2 by half a percentage point (see Table I-7). These growth ranges are sufficient to maintain economic growth while being consistent with the Federal Reserve's long-run goal of price stability, providing that growth in the velocity of money remains stable.

While there is some risk that velocity may shift, recent evidence suggests that the velocity of money--the relationship between the GNP and money supply--is returning to a more normal behavior pattern. As the accompanying chart shows (see Figure I-9), all measures of the velocity of money dropped sharply relative to their long-run trends during and shortly after the past recession, though the drop in M1 velocity (V1) was

TABLE I-6. GROWTH RATES OF CREDIT MARKET DEBT, NON-FINANCIAL SECTORS (Seasonally adjusted, annual rates of change)

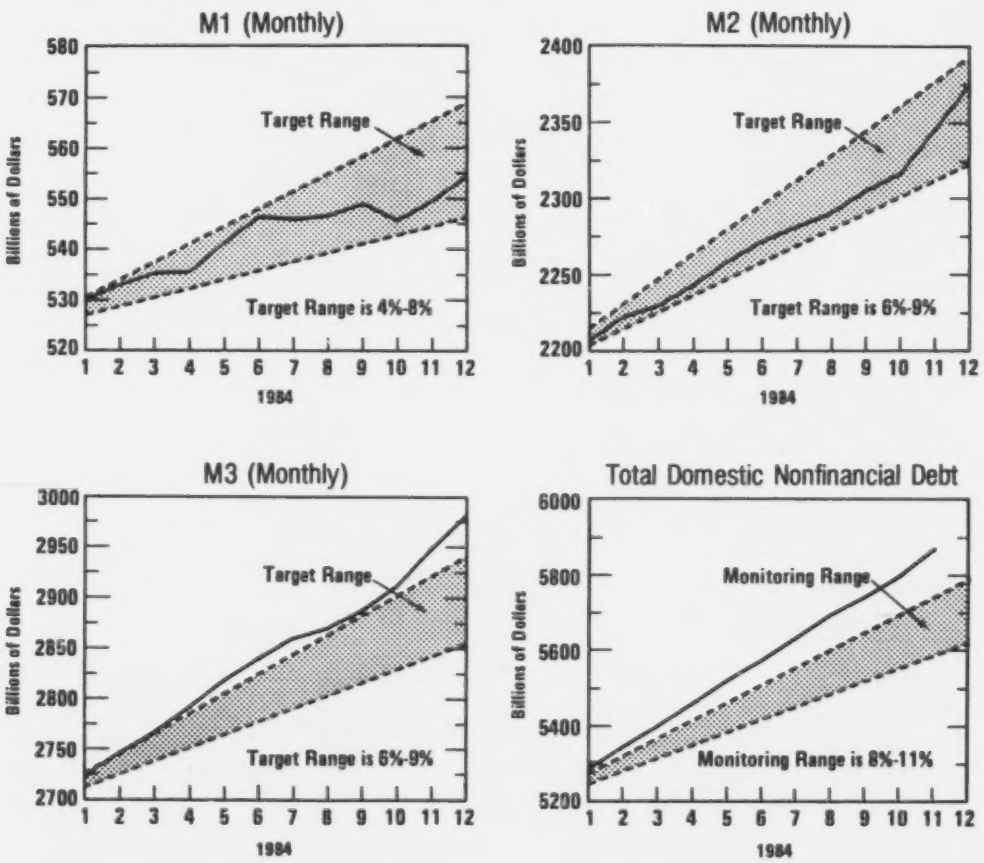
	1983				1984		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Total Debt	8.8	11.3	10.2	12.0	11.8	13.5	10.6
Private	5.4	7.7	9.0	12.2	11.1	14.6	9.6
Corporations	3.5	3.8	4.5	9.8	15.4	15.7	9.7
Households	6.3	9.3	11.0	12.9	10.7	13.5	12.1
Foreign	3.9	9.5	5.7	13.4	-4.4	19.9	-13.2
Other	6.9	9.7	12.7	14.0	10.7	13.7	10.3
Public	18.2	20.7	13.1	11.6	13.7	10.7	13.2
Federal Government	21.1	22.5	15.0	12.0	15.6	13.2	14.7
State and Local Governments	9.3	15.4	7.1	10.5	7.4	2.8	8.2

SOURCES: Federal Reserve Board; Congressional Budget Office.

particularly steep. At the time, the drop in V1 was attributed to a number of factors including the authorization of nationwide NOW accounts, the removal of interest ceilings on many types of savings deposits, and the steepness of the recession, which may have increased the public's desire to maintain precautionary liquid balances.

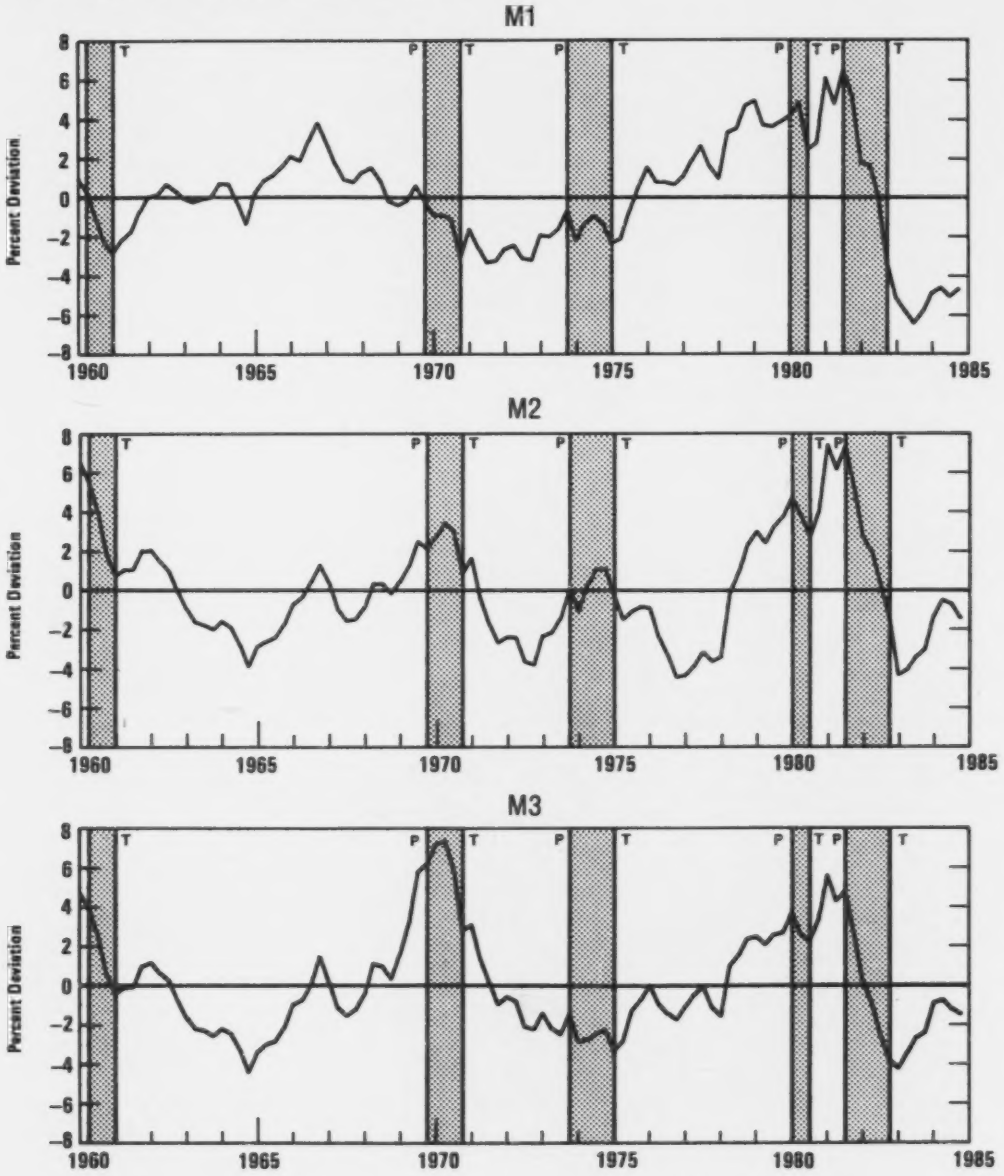
These explanations of the past behavior of M1 velocity lead to markedly different projections for future movements in velocity. If the velocity decline from trend was the result of regulatory changes and the authorization of new accounts, it is likely that velocity will exhibit more

Figure I-8
Money Growth and Targets in 1984



SOURCE: Federal Reserve Board.

Figure I-9
Velocity: Deviations from Trend Level



SOURCES: Federal Reserve Board; Department of Commerce, Bureau of Economic Analysis.

NOTE: Velocity is the ratio of GNP to money.

normal growth--albeit from a lower level--as these changes are assimilated. On the other hand, if the decline was the result of the steepness of the recession, velocity might be expected to grow very sharply with the recovery and return to its old trend level. Clearly, the two velocity growth patterns would call for markedly different monetary policies. If the former explanation is correct, M1 growth near the middle of the Federal Reserve's 1985 target range is roughly consistent with the nominal GNP growth of 7.7 percent in the CBO forecast. But if the latter explanation is correct, much slower money growth would be consistent with the same growth in nominal GNP. Although the evidence is not conclusive, it appears that the former explanation more closely fits the recent data. After declining in 1982 and early 1983, M1 velocity picked up in the second half of 1983 and, in 1984, grew at a somewhat faster than average rate for the second year of recovery. The 1984 pace is, however, slower than would be required to quickly make up the shortfall incurred in 1982 and early 1983. M2 and M3 velocities, which theoretically are less affected by regulatory change, have rebounded and are currently close to their long-run trend.

Despite this pickup in velocity growth, many economists have expressed concern that the 1984 second-half slowdown in M1 could presage a recession in 1985. While this is a possibility, other money indicators do not point that way. For example, M2, M3, and debt are growing more vigorously

TABLE I-7. MONETARY AGGREGATE GROWTH TARGET RANGES, 1984-1985 AND ACTUAL 1984 (In percent)

	Actual 1984 a/	Target	
		1984	Tentative 1985
M1	5.0	4 to 8	4 to 7
M2	7.5	6 to 9	6 to 8½
M3	9.9	6 to 9	6 to 9
Debt	13.6	8 to 11 b/	8 to 11 b/

SOURCE: Federal Reserve Board.

a. The growth rates are measured fourth quarter over fourth quarter, except for debt which is measured from November to November, using the latest available data.

b. Monitoring range.

than M1--indicating that credit availability may not be a problem despite relatively high interest rates. Moreover, weak second-half M1 growth also seemed to occur in 1983, but was much less evident after final data revisions; 1984 data may also be subject to similar, though somewhat smaller, revisions. Finally, the Federal Reserve appears to have been very aggressive in promoting money growth in late 1984 and early 1985 in order to forestall any economic decline.

Fiscal Policy

The large tax cuts of recent years appear to have provided considerable stimulus to the economy. Despite cuts in nondefense spending, overall fiscal policy also appears to have been stimulative in recent years. The structural deficit--that is, the deficit adjusted for changes in the business cycle--has increased persistently since fiscal year 1981. The standardized-employment budget deficit jumped from 1.1 percent of GNP in fiscal year 1982 to 2.7 percent in fiscal year 1983--a substantial shift even considering the limitations of this measure of fiscal policy. 6/ It rose again in 1984 but more slowly, to 3.2 percent of GNP. Under current budget policies the recent trend is projected to continue, with the standardized deficit reaching about 4.2 percent of GNP in fiscal year 1986. (Budget projections are discussed in detail in the following chapter, and the economic impact of deficits in Chapter III.)

The size of recent and prospective deficits suggests a large impact on credit markets. Net federal borrowing as a percentage of GNP, including off-budget borrowing, has risen from 2.7 percent in fiscal year 1981 to 4.8 percent in 1984, and under current policies is projected to be about 5.5 percent in 1985.

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6. The standardized-employment deficit is sometimes used as a summary measure of short-term changes in fiscal policy. It has, however, many limitations as a measure of fiscal impact on the economy. For one thing, it does not take account of the supply effects of fiscal changes; it is strictly a demand measure. For another, even as a demand measure it neglects differences among the factors causing budgetary changes, such as differences between tax changes, or tax changes as against spending changes. Also, it does not take international linkages into account. Many economists believe that an increase in the standardized-employment deficit is less stimulative under flexible exchange rates than under fixed exchange rates. Under flexible exchange rates, imports would tend to grow more rapidly, substituting for domestic production. For a discussion of the standardized-employment budget and related measures, see Congressional Budget Office, *The Economic Outlook* (February 1984), Appendix B.

Current fiscal policy adds greatly to uncertainty in the economic outlook. It causes uncertainty in financial markets because the future scale and impact of federal borrowing requirements are unknown. This uncertainty impinges strongly on interest-sensitive sectors such as residential construction and industries affected by international trade. The hardship faced by the latter may induce calls for more protectionism. Uncertainty also results from lack of knowledge as to what actions may be taken to reduce the deficit or to reform the tax system.

THE ECONOMIC FORECAST FOR 1985-1986

A slowdown in final demands last summer, centering in consumption goods, residential structures and net exports, led to a slowdown in production and employment growth. This prompted some analysts to predict that the economy was moving into yet another recession. It now appears, however, that the slowdown was only a brief pause in economic expansion. Most forecasters now expect continued growth and low inflation next year.

CBO's economic forecast incorporates the following assumptions:

- Federal budget policies continue to be those now in place. Outlays on a unified budget basis are estimated to be $938 billion during fiscal year 1985 and $995 billion during fiscal year 1986. Revenues are estimated to be $735 billion and $788 billion, respectively.

- The money aggregate M1 grows by 5.5 percent from the end of 1984 to the end of 1985, the midpoint of the earlier announced tentative target range. In 1986, M1 grows 5.0 percent.

- The price of imported crude oil declines from an average price of about $29 per barrel in 1984 to $27.50 in 1985 and 1986.

- Prices of food consumed at home rise about 3½ percent this year and about 5 percent next year.

- The average value of the dollar in international exchange markets in 1985 is assumed to be about the same as in the previous year. This requires a modest decline in the first half of 1985, reversing the rise in the second half of 1984. The average value of the dollar in 1986 is also assumed to be the same as in 1985.

Given these assumptions, CBO expects generally favorable economic performance through the 1985-1986 forecast period (see Table I-8). The

forecast shows real growth of 3.4 percent in 1985 and 3.1 percent in 1986, on a fourth-quarter-to-fourth-quarter basis. The civilian unemployment rate declines slowly from recent levels, to an average of 7.1 percent this year and 6.9 percent next year. Inflation, as measured by the GNP implicit price deflator, is forecast at 4.2 percent this year, rising slightly next year to 4.6 percent. Short-term interest rates this year average slightly higher than current levels--reflecting the resurgence of credit demands later this year--but below the averages for 1984. In 1986, short rates move slightly higher. But long rates continue to edge down, reflecting continued moderate inflation performance.

The immediate outlook for both personal consumption expenditures and fixed investment spending remains moderately favorable. Real income growth is expected to slow from the rapid rate so far in this recovery, but remain healthy as employment growth continues and productivity advances outperform the previous decade. Fiscal policy is expected to remain stimulative, given policies in place, and monetary policy to accommodate growth. Financial conditions point to a pickup in the housing market later this year and to strong demands for automobiles and other durable goods. Business fixed investment is also forecast to contribute significantly to growth, partly as a result of the reductions in effective capital costs stemming from the passage of tax legislation in 1981-1982 (see Table I-9 and the following box).

UNCERTAINTIES IN THE FORECAST

Some analysts believe that lower growth or a downturn is increasingly likely as the recovery matures. Postwar recovery-expansions have been sustained for anywhere from 4 quarters to 35 quarters, averaging about 15 quarters. The current recovery is now 8 quarters old and by the end of the forecast period will have run for 16 quarters. In the near term, however, there seems to be about as much chance that growth will exceed the forecast as that it will fall below the forecast.

- The behavior of the dollar in international exchange markets, which has confounded forecasters throughout the recovery, now appears to represent the greatest threat to the economic outlook. If the dollar were to strengthen significantly further this year, the growing imbalances in the domestic economy could threaten the recovery. But a greater risk is a precipitous decline in the dollar, generating tighter credit conditions as foreign inflows of capital diminish. Such a decline would also generate higher domestic inflation and possibly tighter monetary policy. In time, however, a decline in the dollar would improve U.S. net exports.

- As indicated earlier, a positive development, as far as the U.S. economy is concerned, would be a substantial decline in the world price of oil beyond that assumed in the forecast.

The projected budget deficits add to uncertainty because they are unprecedented in peacetime prosperity. If the very large increases in federal debt cannot be absorbed in the domestic and international capital markets without major increases in interest rates, then the forecast would be substantially altered. Foreign investors will need to continue to increase greatly the value of U.S. dollar-denominated assets in their portfolios,

TABLE I-8. THE CBO FORECAST FOR 1985 AND 1986

	Actual		Forecast	
	1983	1984	1985	1986
Fourth Quarter to Fourth Quarter (percent change)				
Nominal GNP	10.4	9.3	7.7	7.8
Real GNP	6.3	5.6	3.4	3.1
GNP Implicit Price Deflator	3.8	3.5	4.2	4.6
Consumer Price Index				
Urban consumers	3.3	4.0	3.9	4.5
Urban wage and clerical workers	2.9	3.5	3.9	4.5
Calendar Year Average (percent)				
Civilian Unemployment Rate	9.6	7.5	7.1	6.9
3-Month Treasury Bill Rate	8.6	9.5	8.3	8.7
Corporate Bond Rate (Moody's AAA)	12.0	12.7	11.7	11.3

TABLE I-9. CURRENT INDICATORS OF BUSINESS FIXED INVESTMENT AND SURVEYS OF CAPITAL SPENDING PLANS FOR 1985

	1983	1984	1983 IV	1984 I	1984 II	1984 III	1984 IV
Current Indicators							
Nondefense Capital Goods Orders (billions of dollars per month)	22.7	26.8	25.1	26.3	27.6	27.3	26.1
Contracts and Orders (billions of dollars per quarter)	26.8	N.A.	28.8	30.1	31.9	31.9	N.A.
Manufacturers' Capital Appropriations (billions of dollars per quarter)	22.0	N.A.	24.3	26.8	37.2	28.7	N.A.
Manufacturing Capacity Utilization Rate (percent)	75.2	81.7	78.9	80.7	81.8	82.5	81.9
Corporate Profits (billions of dollars, annual rate) a/	200	N.A.	234	252	270	259	N.A.
Corporate Cash Flow (billions of dollars, annual rate) b/	271	N.A.	288	298	302	294	N.A.
Corporate AAA Bond Rate (percent)	12.0	12.7	12.4	12.3	13.2	13.0	12.4

Surveys of Capital Spending for 1985

	Nominal	Real
U.S. Department of Commerce	8.4	6.8
McGraw-Hill Survey	9.8	4.3

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; McGraw-Hill, Inc.; Conference Board; Federal Reserve Board; Congressional Budget Office.

NOTE: N.A. = not available.

a. Domestic profits.

b. Retained earnings plus economic depreciation, from domestic operations.

without further increases in interest-rate differentials and without a major change in exchange rates. Moreover, some of the stresses of high interest rates add greatly to uncertainty. For example, the local or regional financial distress in agriculture could spread more widely than most forecasters anticipate.

BUSINESS FIXED INVESTMENT

Indicators of business fixed investment suggest continued growth this year, though at a slower rate than in 1984. New factory orders for nondefense capital goods rose strongly in the first half of last year and, though they fell about 1 percent between the second and third quarters of 1984, they remain high (see Table I-9). Corporate profits have performed quite well in the current recovery, in part because of the business tax cuts and the moderation in real wages. Capacity utilization rates for factories are about average and should not hold back investment. Interest rates--the cost of borrowing--have declined significantly since mid-1984. On the other hand, the possibility that current business tax policy may be revised has contributed to uncertainty and may be inhibiting planned investment.

Another factor adding to uncertainty concerns the timing of the effects of the tax incentives for saving and investment that were legislated in 1981-1982. Some economists believe that the maximum impact of depreciation changes on investment occurs within a few years. If so, that could mean slower growth in investment. Other economists believe that the impact on investment occurs over a much longer period. Moreover, the changes in personal taxes designed to stimulate saving may operate with fairly long time lags.

Survey data suggest that business investment will continue to grow, but at a moderate pace. The Commerce Department's survey found that businesses plan to increase capital spending in 1985 by 8.4 percent (6.8 percent in real terms). CBO's forecast for business investment is somewhat higher than the estimates produced by the survey data.

The CBO forecast also assumes that policymakers can continue to focus on supporting the expansion without worrying about rising inflation. That, in turn, depends on whether inflation continues to be moderate, as envisioned in the CBO forecast.

Factors Underlying the Outlook for Inflation Rates

Almost all of the factors governing inflation remain favorable and point to low or even declining rates of price increase:

- Unemployment and capacity utilization rates show that there is still significant slack in the economy, which in the past has meant downward pressure on inflation rates;
- Dollar exchange rates have risen quite consistently since 1980, and remain strong despite lower U.S. interest rates in the past half year, and a growing trade deficit; 7/
- Commodity prices have recently been falling, partly because of the strong dollar but, in the case of oil, also because of continued energy conservation;
- Money growth in 1984 was moderate.

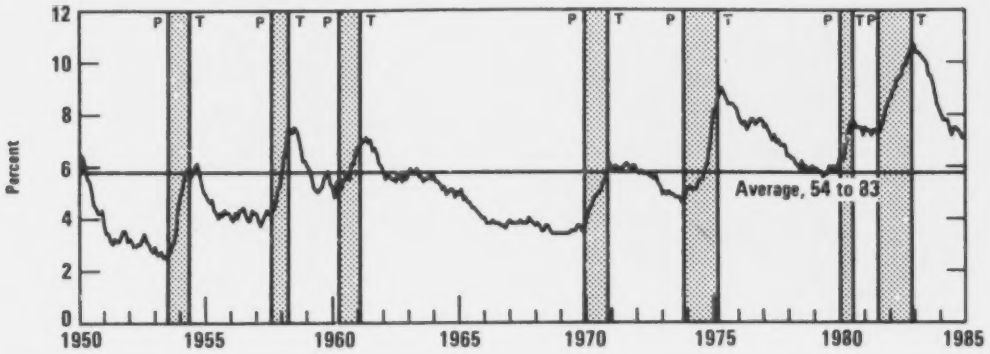
Notwithstanding these developments, higher inflation is still a significant risk, particularly if dollar exchange rates fall rapidly, as some expect, or if economic slack is reduced much faster than expected. In addition, some analysts fear that persistently large government deficits could eventually pressure the Federal Reserve into raising money growth.

Unemployment and Capacity Utilization. Most economists believe that high levels of unemployment and low levels of capacity utilization tend to reduce inflation, both by keeping wage settlements low and by making it more difficult for producers to raise prices. The unemployment rate has fallen sharply in the present recovery, but remains very high relative to previous experience (see Figure I-10). Over the 30-year period from 1954 to 1983, unemployment averaged 5.8 percent overall, and 4.4 percent among adults aged 25 to 54. In the fourth quarter of 1984, these rates were 7.2 percent and

7. Short-term interest rates have also fallen in other countries; see the discussion below.

5.8 percent, respectively. Most estimates suggest that the overall unemployment rate is between 0.5 and 1 percentage point above the rate at which a tightening labor market might create some inflationary pressure. 8/ Thus, at current levels the unemployment rate still suggests some downward pressure on inflation.

Figure I-10
Civilian Unemployment Rate



SOURCE: Department of Labor, Bureau of Labor Statistics.

8. Estimates of the unemployment rate, which is consistent with a constant inflation rate (NAIRU), vary widely. Most estimates are now much higher than they would have been in the 1950s. While the apparent increase in the NAIRU is not fully understood, two factors are widely thought to be important: labor force composition changes and government programs. The labor force now includes a greater proportion of young people and women. Government transfer programs such as unemployment insurance benefits have become more available than was the case 30 years ago, although there have been cutbacks in recent years. Current estimates of NAIRU lie in the range of 6 percent to 6½ percent with some estimates as high as 7 percent. See, for example, Robert J. Gordon, "Unemployment and Potential Output in the 1980s," *Brookings Papers on Economic Activity*, no. 2 (1984), pp. 537-564.

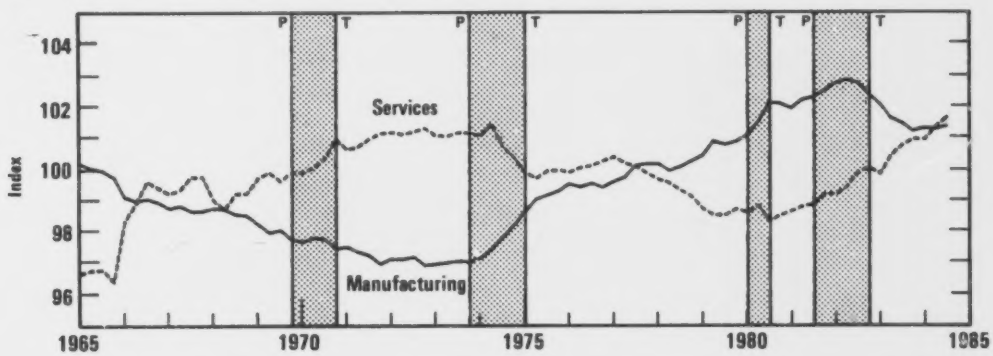
The demographic trends that contributed to a growing NAIRU in the 1960s and 1970s are likely to reverse, producing a slight downward trend in the NAIRU for the next decade. The CBO medium-term projection assumes that the NAIRU is in the range of 6 percent to 6.5 percent in the projection period.

Not all sectors of the economy have recovered equally from the recession. Service industries have fared much better than goods industries. Employment in manufacturing has fallen by 6 percent since 1979, while employment in services has increased more than 11 percent. 9/

The capacity utilization rate is somewhat more equivocal as a guide to inflationary pressure. Capacity utilization recently has been very close to the 30-year average of 82 percent. In the past, levels of capacity utilization much above 82 percent have frequently meant increases in inflation (see Figure I-12). But the reported rate is affected by an apparent slowdown in the rate of growth of capacity in manufacturing. If this slowdown is overstated, as some analysts believe, the reported capacity utilization rate may overstate the risk of inflation. 10/

Exchange Rates. While movements in exchange rates cannot easily be projected, they can have a large impact on domestic inflation, at least temporarily. Recent appreciation in the dollar has acted to hold down

Figure I-11
Relative Wages in Manufacturing and Services



SOURCE: Bureau of Labor Statistics.

NOTE: Average hourly earnings indexes for manufacturing and services, relative to index for nonfarm private sector.

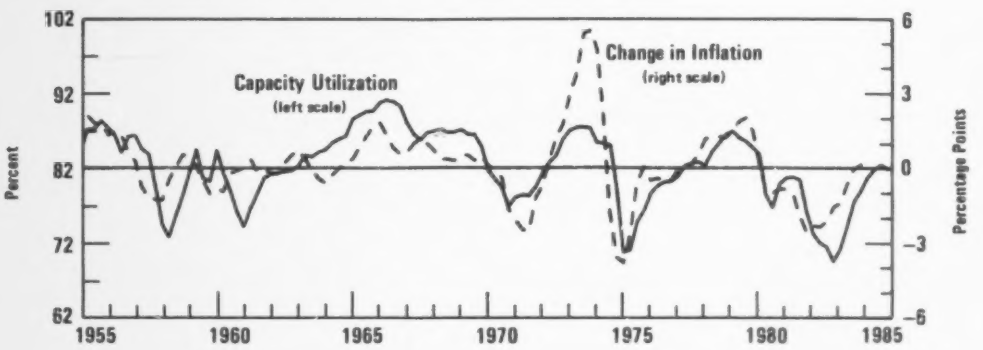
9. Not surprisingly, wages in manufacturing, which grew substantially faster on the average than service industry wages during the 1970s, have not maintained their lead in the first half of the 1980s (see Figure I-11).

10. The capacity utilization measure referred to here is the Federal Reserve's. Some alternative procedures suggest that the slowdown in capacity growth implied by the Federal Reserve's procedure may be overstated.

domestic prices, but some analysts expect this to reverse in the future. Estimates of the increase in U.S. prices resulting from a 10 percent dollar depreciation range from about 0.5 percent to 2 percent, probably within two years. If the impact occurred in the course of a year, it would increase the inflation rate by a similar amount for that year. Thus, the uncertainty as to whether exchange rates will fall and by how much means a similar uncertainty about inflation. The outlook for the dollar is discussed later in this chapter.

Oil Prices. The recent behavior of spot and forward crude oil prices seems to indicate that market participants expect another sharp decline in oil prices. The forward contract for crude oil for February delivery at the New York Mercantile Exchange fell from $29.65 on September 14 to $25.68 on Friday, January 18. The Organization of Petroleum Exporting Countries (OPEC) weathered a brief crisis in October, precipitated by discrepancies between prices for crudes of different grades that led some producers to cut prices for high-quality crudes. Demand for oil has also been affected by relatively warm temperatures through December. (More recently, both Europe and the United States have experienced very cold weather that might offset some of the effects of the earlier mild weather.) More fundamentally, the underlying problem faced by OPEC is the weakness of oil

Figure I-12
Capacity Utilization and Changes in Inflation Rates



SOURCES: Department of Labor, Bureau of Labor Statistics; Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

NOTE: Change in inflation rates is measured for each quarter, taking the rate of inflation over the succeeding four quarters less the rate of inflation over the preceding four quarters. Inflation is measured by changes in the Consumer Price Index excluding the homeownership, energy, food , and used cars components.

demand resulting from conservation and relatively slow economic growth overseas. 11/

Some significant decline in OPEC prices in the near future thus seems likely. The resulting decline in U.S. import prices is likely to be smaller than the fall in official OPEC prices, since a large fraction of U.S. crude oil imports are currently bought on the spot market. The CBO forecast assumes about $1 decline in the import price in the first half of 1985.

Oil prices have a large direct impact on prices in the United States. A $1 decline in the price of oil (3.8 percent) would be expected to reduce the price of consumer goods by about 0.3 percent below what it would otherwise be. Additional oil price declines, beyond what is assumed in the CBO forecast, could lead to additional real growth in the economy.

Commodity Prices. Commodity prices in general have recently been weak, and show no signs of impending inflationary pressures.

The excellent harvest in 1984 has kept food prices low. Crop prices rose in the first half of last year, in part because the drought and the PIK program in 1983 combined to reduce carryover grain stocks to levels that could have meant some supply difficulties if the 1984 harvest had been very bad. But the planting was large, and the weather cooperated to produce a good grain harvest in most of the world.

Prices of sensitive industrial materials, particularly steel scrap and copper and rubber, increased quite sharply early in the recovery, but have been falling for about the past half-year (see Figure I-13). These commodity prices often follow a similar pattern in recoveries: apparently, a recession causes firms to reduce materials inventories, producing a temporary scramble for materials as the recovery starts. Many of these commodity prices, like the price of oil, are determined in a world market, and have been held down both by the strength of the dollar and by the relative weakness of the economic recovery abroad.

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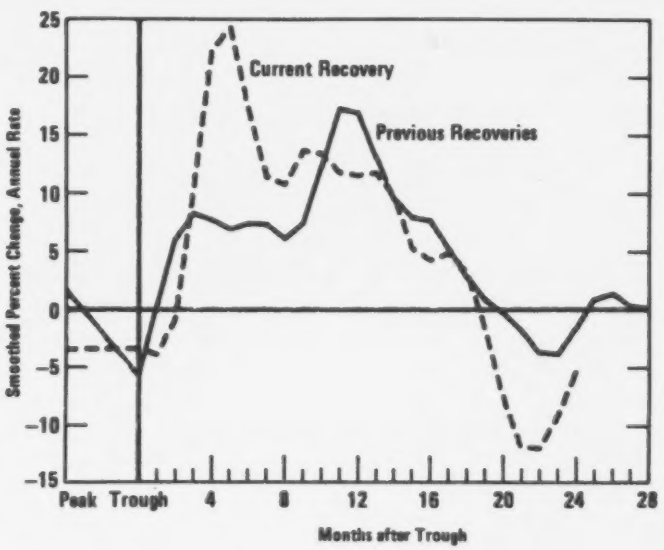
11. U.S. oil consumption has not increased significantly since the bottom of the recession, despite the rapid growth in economic activity in general. Because of the appreciation of the dollar and the fact that crude oil is priced in dollars, many European countries have not experienced the substantial reductions in price since 1980 that have occurred in the U.S. market. This has weakened their growth rates, to some extent. The growth prospects for other countries are discussed below.

Money Growth. Relatively rapid money growth in the first six quarters of the recovery caused some analysts to predict that inflation would increase late in 1984. M1 growth slowed abruptly in the second half of the year, however, greatly reducing such fears. The most closely watched measures, M1 and M2, were within their target ranges throughout 1984 and, overall, grew about 3.5 percentage points less than in the previous year (see the discussion of monetary policy earlier in this chapter).

The Outlook for the International Value of the Dollar

Since the recovery began in the last quarter of 1982, the trade-weighted value of the dollar has increased by approximately 20.5 percent (see Figure I-14). Is the real value of the dollar likely to remain high, or can it be expected to decline? While the question is important for inflation and real activity, it is also of relevance for trade policy. As long as the high dollar continues to weaken the competitive position of United States firms in

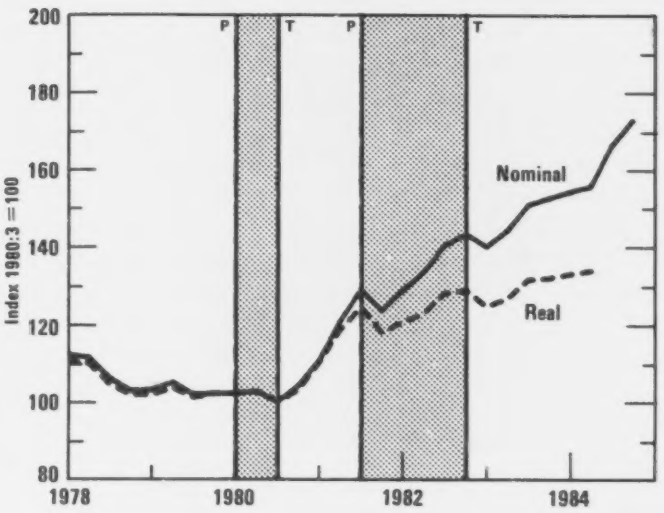
Figure I-13
Commodity Price Index in Recession and Recovery



SOURCES: Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

international markets, it will generate pressures for further protectionist measures. 12/ Unfortunately, the exchange rate is one of the most uncertain aspects of the economic outlook.

Figure I-14.
Trade-Weighted Nominal and Real Exchange Rates



SOURCES: Federal Reserve Board; International Monetary Fund; Congressional Budget Office.

NOTE: The increase in the real exchange rate since 1980 is a measure of the worsened competitiveness of U.S. producers.

12. A number of observers have argued that the dollar is considerably "overvalued." This conclusion is based on a comparison of costs or prices across countries. Indeed, over the last several years prices of goods and services in the United States have risen considerably relative to prices, expressed in dollars, of similar products overseas (see Figure I-14). It is quite clear that U.S. producers of export and import-competing products have suffered a considerable loss of international competitiveness over the past few years. But relative expected rates of return on assets denominated in dollars and other currencies are also important in determining exchange rates. Thus, as long as returns on dollar assets remain comparatively attractive, a high international value of the dollar can be consistent with large current account deficits, at least temporarily. See further discussion in Chapter III.

Most observers agree that, since 1982, dollar exchange rates have been dominated by net international capital flows. 13/ The large net capital inflows into the United States that resulted in a strong dollar provided an additional source of funds to the U.S. economy and thereby eased the pressure on domestic interest rates. The net inflows have resulted from strong domestic credit demands--primarily caused by federal deficits--and from high rates of foreign savings relative to foreign credit demands. As stocks of dollar debt accumulate both at home and abroad, portfolio decisions around the world will increasingly affect U.S. interest and exchange rates.

Some foreign capital has sought a haven in the United States because investment abroad has been considerably more risky than in earlier years. Changes in private saving or in investment in foreign countries in 1985 could result in a lower level of U.S. net capital inflows and cause the value of the dollar to decline, perhaps precipitously. Other factors likely to affect future net capital inflows are relative movements in various national interest rates and the demand for foreign credit to finance foreign government deficits. While interest rates, capital flows, and exchange rates are all simultaneously determined by the same set of fundamental factors, such as monetary and fiscal policies in the major industrial nations, it is useful to view interest rates as one of the key variables that influence private portfolio behavior.

Interest Rates. Worldwide interest rates will continue to exert considerable influence over capital flows and exchange rates. As long as the dollar is expected to be strong, a higher return in the United States than abroad is likely to attract net capital inflows. Over recent months, however, net capital inflows have remained strong even though the differential between U.S. and foreign interest rates has declined considerably. CBO's forecast assumes a continuation of large net capital inflows with no major increase in domestic interest rates and little variation in the dollar. This implies a willingness on the part of international investors to continue increasing their holdings of U.S. dollar assets, at roughly current U.S. interest rates. There can be no assurance that investors will continue to behave this way if foreign interest rates do not decline significantly relative to U.S. rates.

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13. Net capital inflows are defined as the difference between investment by foreigners in U.S. assets and investment by U.S. residents in foreign assets. In 1983, for example, reported foreign holdings of U.S. assets rose by $81.7 billion and reported U.S. holdings of foreign assets rose by $49.5 billion, implying a net capital inflow of $32.2 billion on a reported basis. For further discussion see Chapter III.

Over the past three years, U.S. net capital inflows have drained capital away from foreign countries, thereby tending to raise foreign interest rates. In 1983, for example, one estimate suggests that the U.S. federal deficit absorbed more than a third of the total net private savings (that is, net of capital consumption allowances) of the seven major industrial countries. 14/ By raising foreign interest rates, U.S. net capital inflows have lowered private investment spending in the rest of the world. If the level of foreign interest rates remains high in future years, then private investment spending in the rest of the world may remain low, thereby freeing foreign private savings for other uses--such as investment in U.S. assets.

The factors that have determined the worldwide structure of interest rates over the past few years are likely to remain dominant in the immediate future--namely, relatively tight monetary policies in many countries; risks associated with international lending because of the Third World debt problem; and the net capital inflows induced by U.S. fiscal policies. Also important will be the extraordinarily high ratios of public debt to GNP throughout the industrial world (and of external debt to GNP throughout the developing world). 15/

Nevertheless, many governments have initiated programs to reduce their public deficits over the next several years. Some moderation of worldwide real interest rates is possible, although the level will probably remain high by historical standards. It is not certain, however, that such a moderation of interest rates would reduce foreign savings or increase foreign investment sufficiently to have a significant effect on U.S. net capital inflows.

Foreign Private Savings. The factors that influence foreign savings are not well understood. In a number of industrial countries, savings ratios (the ratio of private savings to GNP) fell during the last few years. Foreign

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14. See Vito Tanzi, "The Deficit Experience in Industrial Countries" (processed), forthcoming in Phillip Cagan, ed., *Contemporary Economic Problems: The Economy in Deficit*, American Enterprise Institute (1985). The countries are Canada, France, Italy, Japan, the United Kingdom, the United States, and West Germany.

15. See Jacques de Larosiere, "The Growth of Public Debt and the Need for Fiscal Discipline," remarks before the 40th Congress of the International Institute of Public Finance, Innsbruck, Austria, August 27, 1984. Ratios of total central government debt to GNP or GDP have been rising since the mid-1970s in Canada, France, Italy, Japan, West Germany, and many of the smaller industrial countries.

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saving rates remain very high by U.S. standards, however, suggesting that a large surplus will continue to be available for investment in this country.

Foreign Government Deficits. Shrinking deficits abroad may free additional savings for investment in this country. The International Monetary Fund's *Annual Report 1984* indicates that although fiscal deficits in the oil exporting countries widened from about 5¼ percent of gross domestic product (GDP) in 1982 to about 9 percent in 1983, they fell slightly in the non-oil developing countries and are expected to fall further. For the European Community as a whole, net borrowing of general governments as a percentage of GDP edged down from about 5.5 percent in 1983 to 5.4 percent in 1984, and is projected to be 4.8 percent in 1985. 16/ Most of the major industrial countries have undertaken programs to reduce general government deficits on a structural basis over the next several years. If there is no offsetting decline in foreign saving rates and/or no offsetting rise in foreign investment spending, U.S. net capital inflows could remain large.

Private Investment in Foreign Countries. Probably the most uncertain factor in the outlook for net capital inflows is the course of private investment spending abroad. Although investment rose at very rapid rates in many countries during 1984, ratios of investment to GNP or GDP outside of the United States are generally still low by historical standards. 17/ If worldwide real interest rates were to decline somewhat because of significant progress abroad in reducing persistent government deficits, investment could rise substantially in those countries so that less capital would find its way to the United States. The dollar would depreciate, and U.S. interest rates would rise. If demand for capital does not rise sufficiently in other countries, however, the United States will continue to experience large net capital inflows, and the dollar could remain strong.

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16. Directorate-General for Economic and Financial Affairs, Commission of the European Economic Communities, *Economic Forecasts 1984-1985* (September-October 1984).

17. Although overall real growth is likely to remain strong in the newly industrialized countries and other developing countries of Asia, it is questionable whether the rest of the developing world will soon return to historical growth rates and investment ratios. The outlook for Japan is bright. Moreover, many European countries have made progress in ridding their economies of a wide variety of real wage, regulatory, and other structural rigidities that led to high unemployment rates and low profit rates during the 1970s. Canada has begun a similar transformation. Nonetheless, it may be some time before Canada and Europe are able to sustain high growth rates and high investment ratios.

THE MEDIUM-TERM ECONOMIC PROJECTIONS: 1987-1990

In addition to its 1985-1986 forecast, CBO has prepared projections of key economic indicators through 1990. These projections are not a forecast of economic performance. They assume that real GNP and labor productivity will grow at rates precisely equal to their average growth in the eight-year periods following earlier postwar recessions. Such periods typically contain at least one recession, and the current projections do not rule out a recession. But because of vast uncertainty regarding the timing of business cycles, the growth rate has simply been smoothed in the CBO projections so that it averages 3.4 percent a year in the 1987-1990 period, with productivity growth close to 2 percent a year. 18/ Such a pattern of growth, when combined with the CBO forecast of labor market conditions in 1986, leads to an unemployment rate average of slightly above 6 percent in 1990.

The projection shows inflation averaging slightly above 4 percent over the 1987-1990 period. Interest rates remain at high levels throughout, based on the assumption that real rates do not change. The projections, which include estimates for income shares of GNP, are shown for calendar years in Table I-10 and for fiscal years in Table I-11 (see also Figures I-15 and I-16).

If the objectives for monetary policy previously given by Federal Reserve and Administration spokespersons were to be achieved, it is likely

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18. With the CBO projection, real GNP growth averages 4.0 percent per year from the fourth quarter of 1982 to the fourth quarter of 1990. The average growth rate for eight-year periods following the trough quarter of six previous postwar recessions was 4.0 percent--the same as for the CBO projection. Over the same periods, productivity grew at an average rate of 2.3 percent.

Trough Quarter of Recession	Average Annual Real GNP Growth During Eight Years Following Trough (percent)	Productivity Growth, Nonfarm Business (percent)
1949:4	4.1	2.4
1954:2	3.5	2.3
1958:2	4.9	2.9
1961:1	4.9	3.0
1970:4	3.9	1.8
1975:1	2.7	1.2
Average Recovery-Expansion	4.0	2.3

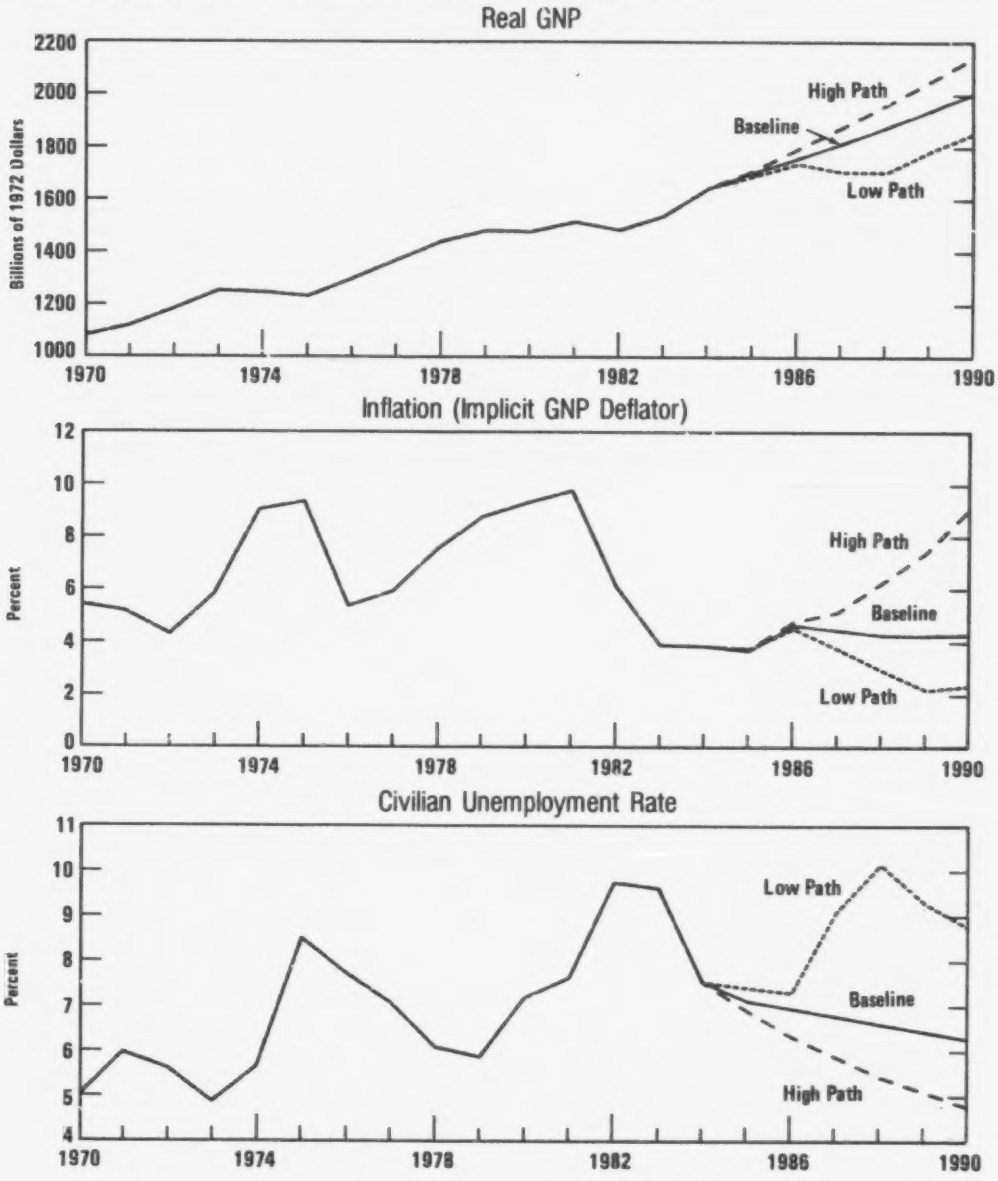
TABLE I-10. MEDIUM-TERM ECONOMIC PROJECTION FOR CALENDAR YEARS 1987-1990

	Actual	Forecast					
	1984	1985	1986	1987	1988	1989	1990
GNP (billions of current dollars)	3661	3927	4238	4567	4921	5301	5711
Nominal GNP Growth Rate (percent change, year over year)	10.8	7.3	7.9	7.8	7.7	7.7	7.7
Real GNP (percent change, year over year)	6.8	3.5	3.2	3.3	3.4	3.4	3.4
GNP Implicit Price Deflator (percent change, year over year)	3.7	3.6	4.6	4.4	4.2	4.2	4.2
CPI-U (percent change, year over year)	4.2	3.7	4.5	4.2	4.2	4.2	4.2
Civilian Unemployment Rate (percent, annual average)	7.5	7.1	6.9	6.7	6.6	6.4	6.2
Three-Month Treasury Bill Rate (percent, annual average)	9.5	8.3	8.7	8.2	8.2	8.2	8.2
Moody's AAA Corporate Bond Rate (percent, annual average)	12.7	11.7	11.3	10.8	10.8	10.8	10.8
Corporate Profits (percent of GNP)	7.8	7.7	8.0	8.4	8.4	8.4	8.5
Wage and Salary Disbursements (percent of GNP)	49.3	48.9	48.5	48.2	48.1	48.1	48.0
Other Taxable Income (percent of GNP)	19.9	20.2	20.2	20.2	20.2	20.0	19.8

TABLE I-11. MEDIUM-TERM ECONOMIC PROJECTION FOR FISCAL YEARS 1987-1990

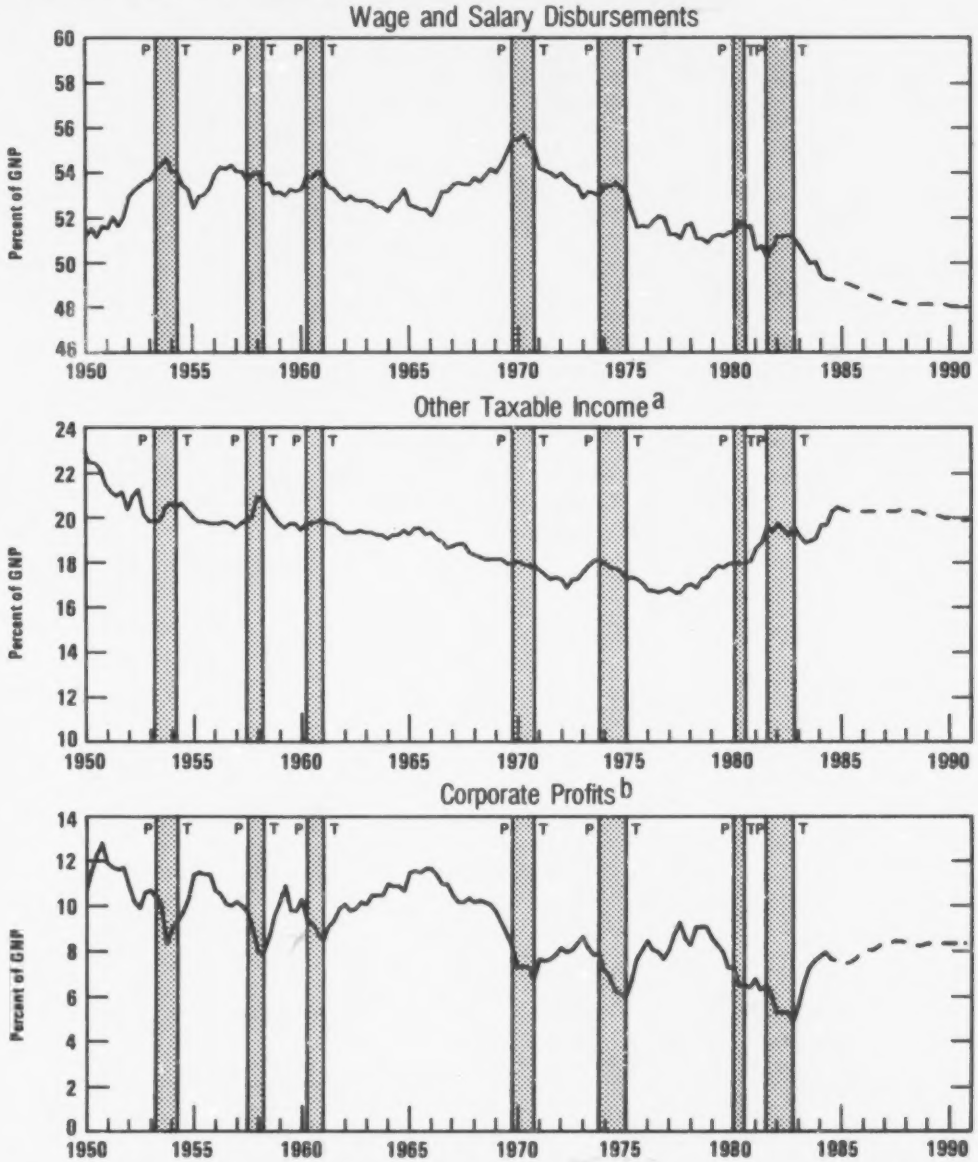
	Actual	Forecast					
	1984	1985	1986	1987	1988	1989	1990
GNP (billions of current dollars)	3581	3855	4158	4483	4830	5204	5606
Nominal GNP Growth Rate (percent change, year over year)	11.1	7.6	7.9	7.8	7.7	7.7	7.7
Real GNP (percent change, year over year)	7.0	4.1	3.2	3.2	3.4	3.4	3.4
GNP Implicit Price Deflator (percent change, year over year)	3.8	3.4	4.5	4.5	4.2	4.2	4.2
CPI-U (percent change, year over year)	4.1	3.7	4.4	4.3	4.2	4.2	4.2
Civilian Unemployment Rate (percent, annual average)	7.8	7.1	7.0	6.8	6.6	6.4	6.3
Three-Month Treasury Bill Rate (percent, annual average)	9.5	8.4	8.7	8.3	8.2	8.2	8.2
Moody's AAA Corporate Bond Rate (percent, annual average)	12.7	11.9	11.3	11.0	10.8	10.8	10.8
Corporate Profits (percent of GNP)	7.8	7.7	7.9	8.4	8.4	8.4	8.5
Wage and Salary Disbursements (percent of GNP)	49.5	49.0	48.6	48.3	48.1	48.1	48.0
Other Taxable Income (percent of GNP)	19.6	20.3	20.2	20.2	20.2	20.0	19.9

Figure I-15.
CBO Baseline and Alternative Economic Projections



SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; Congressional Budget Office.

Figure I-16.
Taxable Income Shares of GNP, Actual and Projected



SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

NOTE: P and T lines indicate business cycle peak and trough dates.

[a]Other taxable income consists of personal interest including interest on the public debt, rent, dividends, and income of unincorporated businesses.

[b]Corporate profits with inventory valuation and capital consumption adjustments, on a national income and product accounts basis. To arrive at "book profits," the basis for the tax estimates, these adjustments are removed.

that nominal GNP growth would decline over time until inflation approached zero. 19/ In the CBO projections, however, growth in nominal GNP is essentially constant after 1986, because of uncertainty as to the precise time pattern of the decline in the growth rate. If the Federal Reserve and the Administration succeed in their long-run strategy, somewhat lower nominal GNP growth may occur toward the end of the projection.

Whether the average growth rate incorporated in CBO's out-year projections can be realized, given current policies, depends heavily on whether the large inflow of foreign capital to finance the domestic deficit can be sustained.

The medium-term performance of the economy could turn out to be better or worse than the projection. The actual path will certainly prove to be more volatile, and may include a recession. A particularly important element in the projection is the assumption that trend productivity growth will improve during this decade, after the dismal performance of the 1970s. To date, the evidence remains mixed. Many of the basic factors thought to have led to the slowdown in productivity growth are no longer in force or have changed direction. But cyclical effects have dominated productivity so far in this decade, making it difficult to determine underlying rates of growth. 20/

Alternative Economic Projections

Economic projections are highly uncertain. 21/ Yet seemingly small changes in economic assumptions can have substantial effects on the budget outlook.

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19. For example, in early 1983, the President's Council of Economic Advisers stated that "the fundamental guiding principle of monetary policy in an inflationary economy should be a gradual reduction in the rate of growth of the money stock until the rate is consistent with price stability." See *Economic Report of the President* (February 1983), p. 23. More recently, Chairman Paul Volcker of the Federal Reserve Board has emphasized the importance of achieving "reasonable price stability," and observed that this implies that "growth in nominal GNP and money and credit will need to be reduced over time." See Paul A. Volcker, "We Can Survive Prosperity," Remarks at the Joint Meeting of the American Economic Association-American Finance Association, San Francisco, California, December 28, 1983.

20. For discussions of recent productivity trends and the outlook for productivity, see Peter K. Clark, "Productivity and Profits in the 1980s: Are They Really Improving?," *Brookings Papers on Economic Activity*, no. 1 (1984), pp. 133-67; and John W. Kendrick, "Long-Term Economic Projection: Stronger U.S. Growth Ahead," *Southern Economic Journal*, vol. 50, no. 4 (April 1984), pp. 945-964.

21. For an analysis of CBO's forecast errors, see Appendix H.

To indicate the impact of changes in economic projections on budget estimates, CBO has prepared two alternative paths based on different assumptions (see Figure I-15). The first path assumes higher rates of economic growth, which yield lower budget deficits, while the second assumes lower economic growth, which is accompanied by substantially higher budget deficits. (The deficit projections associated with these projections are shown in Chapter II.)

High Path. In the high path, economic growth, from the recession trough in the fourth quarter of 1982, to the fourth quarter of 1990, is assumed to equal the strongest eight-year recovery in the postwar period--that experienced in the 1960s. This results in an average annual growth rate of 5 percent over the period, compared with 4 percent in the baseline projection. Because of very rapid growth, inflation and interest rates rise rapidly in the out-years. Inflation, as measured by the Consumer Price Index (CPI-U), averages 2.2 percent a year higher than in the baseline projections for the 1985-1990 period (see Table I-12).

Low Path. The low path assumes that growth from the recession trough in 1982 to the end of 1990 averages 1 percent less per year than in the baseline projection. The low path incorporates a deep recession in 1987, which is precisely equal in length (five quarters) and in depth (a real GNP decline of 4.9 percent) to the 1973-1975 recession. The annual rate of change in the Consumer Price Index is assumed to average 1.0 percent lower than in the baseline projection during the 1985-1990 period.

TABLE I-12. ALTERNATIVE ECONOMIC PROJECTIONS (By calendar year)

	1985	1986	1987	1988	1989	1990
GNP (billions of current dollars)						
High-growth alternative	3950	4335	4760	5289	5939	6775
Baseline	3927	4238	4567	4921	5301	5711
Low-growth alternative	3900	4187	4264	4383	4690	4981
Real GNP (percent change, year over year)						
High-growth alternative	4.0	4.8	4.5	4.6	4.6	4.6
Baseline	3.5	3.2	3.3	3.4	3.4	3.4
Low-growth alternative	2.7	2.8	-1.8	-0.1	4.7	3.8
GNP Implicit Price Deflator (percent change, year over year)						
High-growth alternative	3.6	4.7	5.1	6.2	7.4	9.0
Baseline	3.6	4.6	4.4	4.2	4.2	4.2
Low-growth alternative	3.6	4.4	3.7	2.8	2.2	2.3
CPI-U (percent change, year over year)						
High-growth alternative	3.7	4.7	5.1	6.2	7.4	9.0
Baseline	3.7	4.5	4.2	4.2	4.2	4.2
Low-growth alternative	3.7	4.4	3.7	2.8	2.2	2.3
Civilian Unemployment Rate (percent, annual average)						
High-growth alternative	6.9	6.3	5.8	5.4	5.1	4.7
Baseline	7.1	6.9	6.7	6.6	6.4	6.2
Low-growth alternative	7.4	7.3	9.0	10.1	9.2	8.7
Three-Month Treasury Bill Rate (percent, annual average)						
High-growth alternative	6.9	7.6	8.5	10.3	11.8	13.7
Baseline	8.3	8.7	8.2	8.2	8.2	8.2
Low-growth alternative	8.5	9.0	6.0	6.5	7.0	7.5

CHAPTER II

THE BUDGET OUTLOOK

The Congressional Budget Office projects that the federal government deficit will hover just over 5 percent of gross national product for the next five years under baseline economic and budgetary assumptions (see Table II-1). In fiscal year 1984, the total unified budget and off-budget deficit (see following box) was $185 billion, or 5.2 percent of GNP. If defense appropriations increase as assumed in the fiscal year 1985 budget resolution adopted by the Congress, the 1986 baseline deficit would equal $215 billion (5.2 percent of GNP). By 1990 the baseline deficit would reach $296 billion (5.3 percent of GNP.) With no real growth in defense appropriations, as is assumed for nondefense discretionary spending, the baseline deficit would remain around $200 billion over the five-year period and would decline as a percentage of GNP.

With baseline deficits growing from $200 billion to almost $300 billion by 1990, federal debt held by the public would more than double over the next six years. (Debt held by the public consists of debt held by domestic and foreign private investors and by the Federal Reserve; it excludes debt held by federal government trust funds.) At the end of 1984 debt held by the public equalled $1.3 trillion, or 37 percent of GNP. By September 30, 1990, it would reach $2.8 trillion, or 50 percent of GNP--a level last seen in the late 1950s. Even assuming no real growth in defense appropriations, debt would reach $2.6 trillion, or 46 percent of GNP.

BASELINE BUDGET PROJECTIONS

The baseline budget projections assume CBO's short-run economic forecast and longer-run projections, as described in the previous chapter. They also assume that taxing and spending policies for fiscal year 1985, as in effect at the end of the second session of the 98th Congress, continue unchanged for fiscal years 1986 through 1990. They are not forecasts of future federal budgets, since those budgets will doubtless include numerous policy changes.

TABLE II-1. CBO BASELINE BUDGET PROJECTIONS (By fiscal year)

Alternative Baseline	1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
			In Billions of Dollars				
Baseline with Budget Resolution for Defense a/							
Revenues	666	735	788	855	934	1,005	1,088
Budget Outlays	842	938	995	1,080	1,174	1,270	1,378
Unified Budget Deficit	175	203	206	225	240	266	290
Total Deficit b/	185	214	215	233	249	272	296
Debt Held by the Public	1,313	1,526	1,740	1,972	2,220	2,490	2,786
Baseline with No Real Growth in Defense c/							
Revenues	666	735	788	855	934	1,005	1,088
Budget Outlays	842	938	988	1,060	1,133	1,203	1,279
Unified Budget Deficit	175	203	200	204	199	199	192
Total Deficit b/	185	214	208	213	207	205	198
Debt Held by the Public	1,313	1,526	1,733	1,945	2,151	2,356	2,552
			As a Percent of GNP				
Baseline with Budget Resolution for Defense a/							
Revenues	18.6	19.1	19.0	19.1	19.3	19.3	19.4
Budget Outlays	23.5	24.3	23.9	24.1	24.3	24.4	24.6
Unified Budget Deficit	4.9	5.3	5.0	5.0	5.0	5.1	5.2
Total Deficit b/	5.2	5.6	5.2	5.2	5.1	5.2	5.3
Debt Held by the Public	36.7	39.6	41.8	44.0	46.0	47.9	49.7
Baseline with No Real Growth in Defense c/							
Revenues	18.6	19.1	19.0	19.1	19.3	19.3	19.4
Budget Outlays	23.5	24.3	23.8	23.6	23.5	23.1	22.8
Unified Budget Deficit	4.9	5.3	4.8	4.6	4.1	3.8	3.4
Total Deficit b/	5.2	5.6	5.0	4.7	4.3	3.9	3.5
Debt Held by the Public	36.7	39.6	41.7	43.4	44.5	45.3	45.5
Reference: GNP (in billions of dollars)	3,581	3,855	4,158	4,483	4,830	5,204	5,606

a. Defense budget authority for 1986 and 1987 is assumed to be the amounts specified in the most recent Congressional budget resolution; defense budget authority for 1988 through 1990 is an extrapolation of the budget resolution prepared for the staffs of the House and Senate Budget Committees. Outlays are estimated consistently with the assumed budget authority using CBO technical estimating methods.

b. The total budget deficit includes off-budget spending.

c. Defense budget authority for 1986 through 1990 is the amount that would provide no real growth under CBO economic assumptions.

They are, however, a baseline or benchmark against which proposed policy changes can be measured. In preparing the baseline projections, CBO must adopt a number of conventions or assumptions as to what constitutes current budgetary policies. In many cases, the choice of assumptions can have a substantial effect on the projections. This section summarizes those assumptions; they are described in detail in Appendix A.

Baseline Revenues

Baseline revenues are revenues generated under existing tax law, with four exceptions. Taxes for the Hazardous Substance Response (Superfund), Airport and Airway, and Highway Trust Funds are extended at current rates beyond their expiration dates in 1985, 1987, and 1988, respectively. The

THE UNIFIED BUDGET AND OFF-BUDGET SPENDING

The budget summarizes the federal government's payments to and receipts from the public. In 1969, at the recommendation of the President's Commission on Budget Concepts, the government moved to a unified budget, which provided a comprehensive summary of federal revenues and spending. The unified budget was intended to portray more accurately than its predecessors the economic importance of government activities and to enable policymakers to exert more effective control over spending and tax policies. Since 1971, however, the unified budget concept has been compromised by the exclusion of certain spending programs. The outlays of these off-budget entities must be added to the unified budget deficit to determine the total federal deficit that must be financed by borrowing from the public.

In fiscal year 1985 the Federal Financing Bank (FFB) accounts for $9 billion out of an estimated $11 billion in off-budget spending. The FFB is an office in the Treasury created to consolidate borrowing by other federal agencies. The FFB does not operate programs itself; rather, it finances other government programs by purchasing their debt securities or by purchasing loans they have guaranteed. The FFB's largest users are the Farmers Home Administration ($4 billion in 1985) and the Rural Electrification Administration ($2 billion). Aside from the FFB, most remaining off-budget spending ($2 billion) is to acquire oil for the Strategic Petroleum Reserve.

federal civil service retirement contribution adjustment for new employees is also extended beyond its scheduled expiration date at the end of 1985. By 1990, the trust fund extensions add $14 billion to annual baseline revenues. The civil service adjustment extension reduces baseline revenues by amounts ranging from $0.4 billion in 1986 to $1.5 billion in 1990.

The CBO baseline treatment of temporary revenue provisions is outlined in the following box. Appendix A provides a compilation of tax provisions whose expirations during the 1985-1990 period are taken into account in the calculation of the baseline. Because all of the temporary tax provisions not listed above are assumed to expire on schedule, a decision to extend any such provisions would alter baseline revenues.

If the Congress were to extend all of the revenue-raising provisions that CBO assumes would not be extended (like the temporary increases in cigarette and telephone usage excise taxes), while allowing all of the temporary revenue-losing provisions to expire, the baseline would be $4 billion higher by 1990. On the other hand, if the Congress were to extend all of the temporary revenue-losing provisions (other than the civil service retirement contribution reduction), while allowing expiration of the temporary excise taxes, 1990 baseline revenues would be $15 billion lower.

Baseline Outlays

Federal spending can be divided into two categories. The first category is mandated by existing law. This includes spending for Social Security benefits and other entitlement programs, for permanent appropriations such as interest on the public debt, and for most trust funds and other special funds. The baseline spending projections for these programs are comparable to the baseline revenue projections. It is assumed that existing law at the close of the 98th Congress will continue unchanged, and that future spending will respond to assumed economic and population changes in the same way that it has responded to such changes in the past.

In some mandatory programs, the law gives the Executive Branch some freedom of action, for example, with respect to the amount and timing of asset sales to the Federal Financing Bank. In such cases, the baseline generally assumes that the Administration will carry out its most recently announced intentions. As a result, the baseline projections might change if the Administration announces changes in its plans, as it often does in its annual budget. In late February, CBO will publish *An Analysis of the President's Budgetary Proposals for Fiscal Year 1986*, which will contain revised baseline outlay projections.

CBO BASELINE TREATMENT OF TEMPORARY REVENUE PROVISIONS

Type of Provision	Expiration Date	Effects on 1990 Baseline Revenues (in billions of dollars)
Assumed To Be Extended in Baseline		
Revenue Raising Provisions		
Trust Funds		
Hazardous Substance Response (Superfund)	9/30/85	+0.2
Airport and Airway	12/31/87	+3.4
Highway	9/30/88	+10.8
Revenue Losing Provisions		
Civil Service Retirement Adjustment	12/31/85	-1.5
Assumed To Expire In Baseline		
Revenue Raising Provisions		
Excise taxes		
Cigarette	9/30/85	-1.7
Telephone	12/31/87	-2.6
Post closure liability trust fund	9/30/85	a/
Revenue Losing Provisions		
Energy tax incentives	12/31/85	+1.2
Other tax incentives		
Research and development credit	12/31/85	+1.9
Targeted jobs credit	12/31/85	+1.9
Non-itemizers' deduction for charitable contributions	12/31/86	+3.8
Small issue industrial development bonds	12/31/86	+0.8
Employee stock ownership plan credit	12/31/87	+2.7
Six-month holding period for long-term capital gains	12/31/87	+0.1
Others	7/17/85-12/31/90	+2.7
Net Effect on 1990 Baseline Revenues of		
Provisions assumed to be extended		+$13 billion
Provisions assumed to expire		+$11 billion

a. Less than $50 million.

The rest of federal spending is controlled through the appropriation process. The baseline projections for nondefense appropriations are generally based on fiscal year 1985 funding levels as enacted by the Congress through December 1984, with future increases included to keep pace with inflation. The projections for defense spending are calculated on a different basis from nondefense programs. The baseline projections of defense budget authority for 1986 and 1987 are the figures specified in the fiscal year 1985 Congressional budget resolution. The defense budget authority figures for 1988 through 1990 are extrapolations of the budget resolution. These assumptions appear generally to be consistent with recent budget decisions, but they do not necessarily represent a detailed program-by-program projection of the budget priorities and policies contained in base-year appropriation actions.

Over the years, CBO has used several different baseline conventions for defense. Before 1981, CBO treated defense in the same way as nondefense spending--that is, appropriations were assumed to increase in line with inflation. In its 1981 and 1982 annual reports, CBO used a programmatic defense baseline. This baseline provided funding for an explicit defense force structure and investment program that, CBO assumed, had been approved by the Congress. Since 1983, CBO has used as the defense baseline an extrapolation of the most recent Congressional budget resolution. CBO believes that this baseline represents the most realistic approximation of current Congressional intentions.

For the past several years, both the Administration and the Congress have supported substantial real increases in defense spending. From 1980 through 1985, defense budget authority--the legal authority to make commitments--has grown by about 8 percent per year in real terms. In preparing the Congressional budget resolution for fiscal year 1985, both the House and Senate Budget Committees measured their recommendations against the Administration's defense request, which was even higher than the CBO baseline.

While the baseline projections assume that defense appropriations grow in line with the budget resolution, Table II-1 also shows defense projections estimated with no real growth--the same basis as is used for nondefense programs. If real defense spending increases as the budget resolution assumed, baseline outlays would claim a growing share of GNP. By 1990, budget outlays would represent 24.6 percent of GNP, compared with the actual 1984 level of 23.5 percent. If real defense appropriations were held constant, as is assumed for nondefense appropriations, the ratio of outlays to GNP would decline to 22.8 percent by 1990.

SPENDING PROJECTIONS BY MAJOR CATEGORY

Baseline outlays (on- and off-budget combined) are projected to grow by $435 billion, or 7.8 percent per year, over the 1985-1990 period. Except for 1985, which is affected by a one-time conversion of guaranteed housing notes into direct loans, baseline spending shows a slow upward drift relative to the size of the economy. Total outlays rise from 23.8 percent of GNP in 1984 to a projected 24.7 percent in 1990. But within this slowly growing total, some categories of spending are rising rapidly, while others are declining (see Table II-2). National defense grows from 6.4 percent to 7.6 percent of GNP, a level close to that of 1965 but below its Vietnam War peak, as shown in Figure II-1. Net interest continues the upward trend begun around 1980, increasing from 3.1 percent to 4.1 percent of the nation's output in 1984 and 1990, respectively. Spending for nondefense programs--the remainder of the budget--shrinks from 14.3 percent to 13.0 percent of gross national product. Discretionary nondefense spending (including off-budget), which has declined to the point at which it now represents about the same share of GNP as it did in 1965, falls further through the projections period. By 1990 entitlements will be down to their 1975 level, although substantially above where they were in 1965--before the creation of Medicare, Medicaid, Food Stamps, guaranteed student loans, Supplemental Security Income, and general revenue sharing.

As a result of these disparate growth rates, the composition of federal spending is projected to change substantially, as shown in Figure II-2. The share of national defense in total outlays grows from 27 percent in 1985 to 31 percent by 1990. Similarly, net interest grows from 14 percent to 17 percent of spending. On the other hand, entitlements and other mandatory spending (including offsetting receipts) drop from 41 percent to 37 percent of the total, and nondefense discretionary spending (including off-budget outlays) falls from 19 percent to 16 percent of the whole.

The major sources of growth in baseline spending after 1985 are detailed in Table II-3. Except for the one-time purchase of about $13 billion in notes for federally guaranteed low-income public housing in 1985, the pattern of growth is almost the same as that published in CBO's August 1984 report, *The Economic and Budget Outlook: An Update.* National defense accounts for $172 billion, or two-fifths of the $435 billion growth in total spending between 1985 and 1990. Almost half of the defense increase, $81 billion, represents real spending growth assumed in the fiscal year 1985 budget resolution. Entitlements and other mandatory spending grow by $141 billion, or by $154 billion if the purchase of the low-income housing notes is excluded from the 1985 base. Sixty percent of the increase in entitlements

TABLE II-2. CBO BASELINE OUTLAY PROJECTIONS FOR MAJOR SPENDING CATEGORIES (By fiscal year)

Major Categories	1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
			In Billions of Dollars				
National Defense	227	252	282	313	347	384	424
Entitlements and Other Mandatory Spending	396	436	445	477	510	542	577
Nondefense Discretionary Spending	153	168	174	182	191	200	211
Net Interest	111	130	146	163	186	206	230
Offsetting Receipts	-45	-48	-52	-56	-59	-62	-65
Unified Budget Outlays	842	938	995	1,080	1,174	1,270	1,378
Off-Budget Federal Entities	10	11	9	8	8	6	6
Total Outlays	852	949	1,003	1,088	1,183	1,276	1,384
			As a Percent of GNP				
National Defense	6.4	6.5	6.8	7.0	7.2	7.4	7.6
Entitlements and Other Mandatory Spending	11.0	11.3	10.7	10.6	10.6	10.4	10.3
Nondefense Discretionary Spending	4.3	4.3	4.2	4.1	3.9	3.8	3.8
Net Interest	3.1	3.4	3.5	3.6	3.9	3.9	4.1
Offsetting Receipts	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
Unified Budget Outlays	23.5	24.3	23.9	24.1	24.3	24.4	24.6
Off-Budget Federal Entities	0.3	0.3	0.2	0.2	0.2	0.1	0.1
Total Outlays	23.8	24.6	24.1	24.3	24.5	24.5	24.7

Figure II-1.

Outlays by Category as Percents of GNP

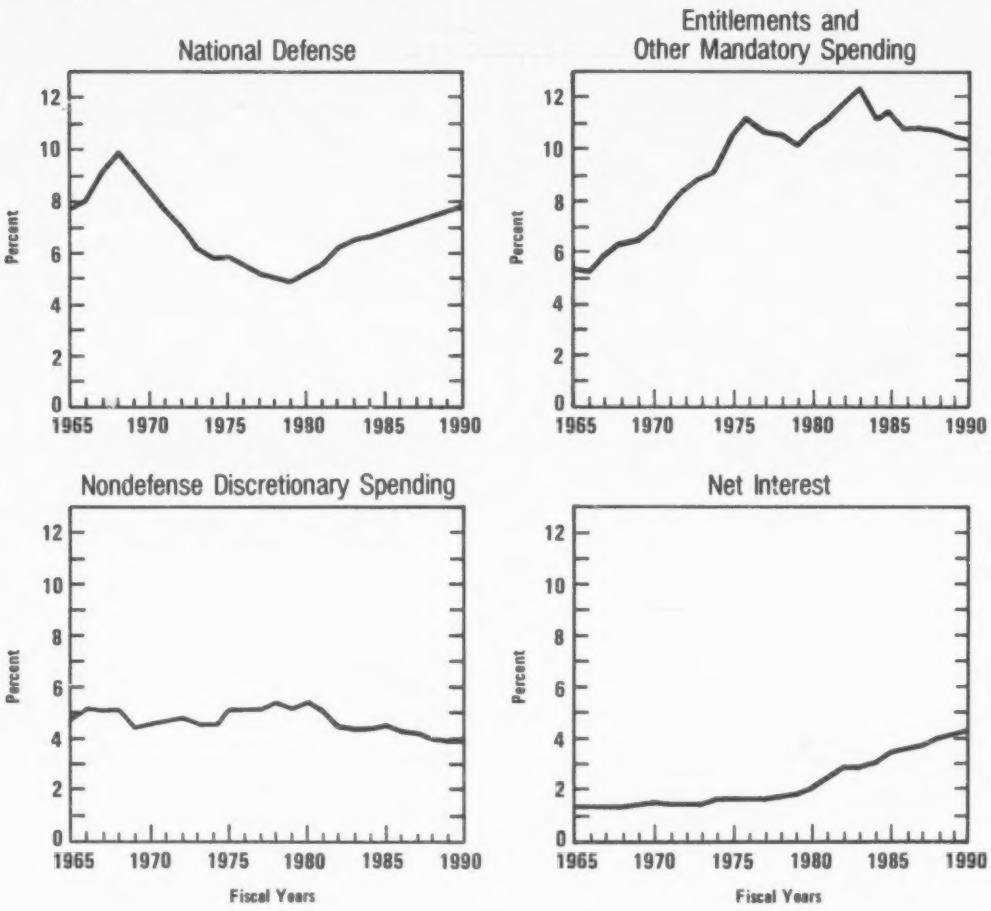


Figure II-2.
The Composition of Total Federal Spending

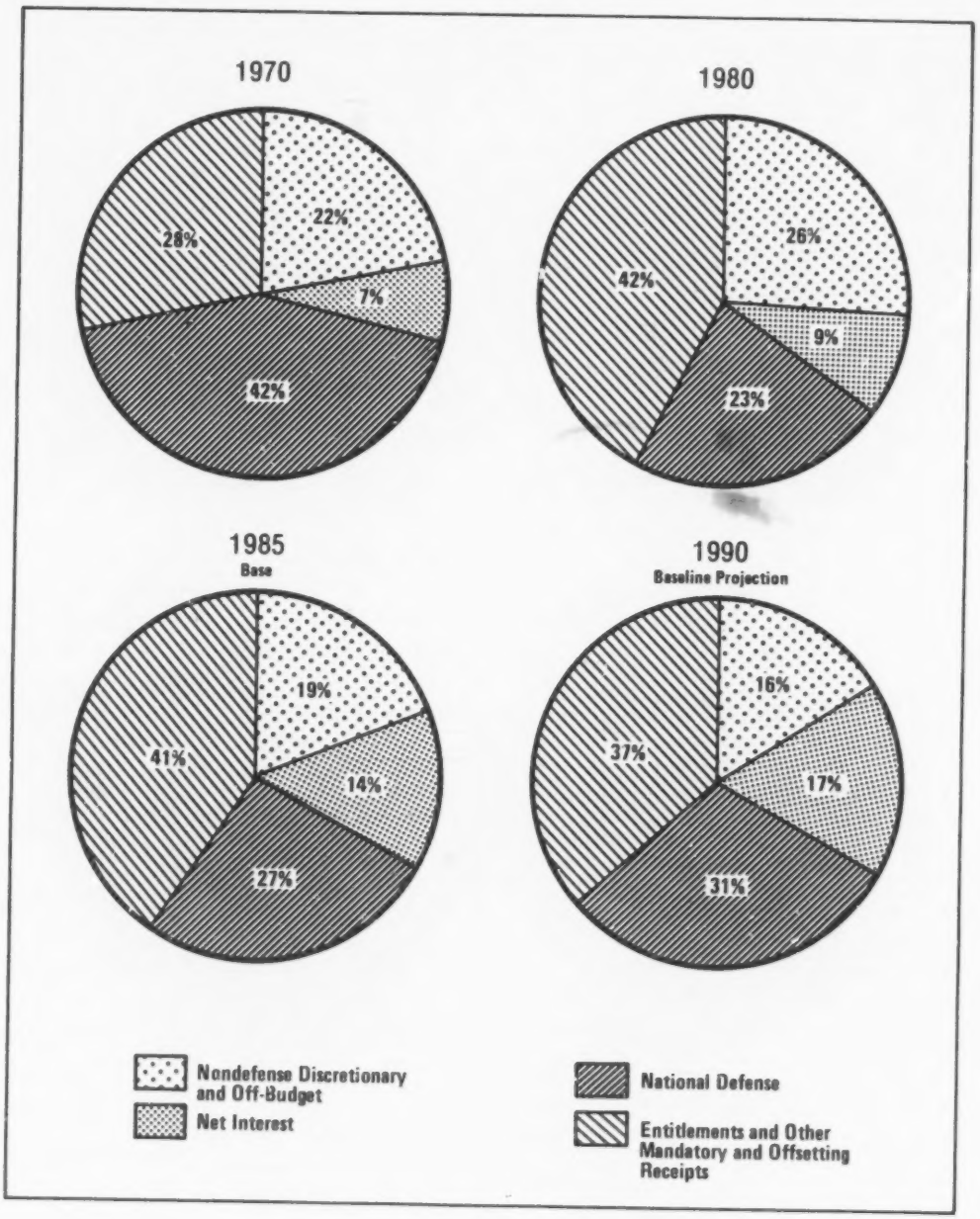


TABLE II-3. SOURCES OF GROWTH IN CBO BASELINE SPENDING RELATIVE TO 1985 OUTLAYS (By fiscal year, in billions of dollars)

	1986	1987	1988	1989	1990
Defense					
Real defense growth	6	19	37	57	81
Inflation adjustments					
Pay	2	6	10	15	20
Purchases	4	11	20	31	42
Subtotal	6	16	30	46	62
Other increases a/	18	26	28	30	30
Subtotal	30	61	95	132	172
Entitlements and Other Mandatory Spending					
Cost-of-living adjustments	8	20	33	46	59
Medical cost increases	5	11	17	25	33
Caseload increases	6	12	18	25	31
Increased medical care utilization	2	5	8	12	17
Low-income housing notes b/	-13	-13	-13	-13	-13
Other increases a/	2	7	10	11	14
Subtotal	9	41	74	106	141
Nondefense Discretionary Spending					
Inflation adjustments					
Pay	1	2	4	6	8
Purchases	2	7	12	19	25
Subtotal	3	9	16	25	34
Other increases a/	3	6	7	8	10
Subtotal	6	15	23	33	44
Net Interest	15	33	56	75	100
Offsetting Receipts	-4	-8	-12	-14	-18
Growth in Unified Budget Outlays	56	142	236	332	440
Off-Budget Federal Entities	-2	-3	-3	-5	-5
Growth in Total Outlays	54	139	234	327	435
Memoranda (Excluding Low-Income Housing Notes):					
Growth in Entitlements and Other Mandatory Spending	22	54	87	119	154
Growth in Total Outlays	67	152	246	340	448

a. Includes adjustment for full-year effect of January 1985 pay raises and cost-of-living adjustments.

b. Reflects one-time purchase of outstanding low-income public housing notes in 1985.

is just to keep up with inflation--both cost-of-living adjustments and medical costs increases. Another 30 percent stems from increases in program caseload and use of medical care services. Nondefense discretionary spending grows by $44 billion, largely because of increases in the costs of the goods and services purchased. Because of the large projected deficits and the assumed continuation of high real interest rates, net interest spending swells by $100 billion over the projections period.

National Defense

National defense programs include not only the military activities of the Department of Defense but also the nuclear weapons programs of the Department of Energy and miscellaneous defense activities, such as maintaining defense stockpiles and administering the selective service. The baseline budget authority figures for defense are an extrapolation of the fiscal year 1985 Congressional budget resolution; estimated baseline outlays rise from $252 billion in fiscal year 1985 to $282 billion in 1986 and $424 billion in fiscal year 1990.

As discussed earlier in this chapter, other defense baseline assumptions are possible. If new defense spending authority were calculated on the same basis generally assumed in the baseline for nondefense discretionary programs, defense budget authority would be increased just enough to keep pace with inflation; there would be no real growth. Under this concept, outlays would be $276 billion in 1986 and $344 billion in 1990. The two paths are compared in Table II-4.

The baseline thus can be viewed as the sum of two parts: (1) a zero real growth path, calculated like the baseline for nondefense discretionary programs, and (2) an additional real funding increment. Table II-5 divides the baseline outlay projections for national defense into its major components using this approach. Without any real growth, defense outlays would increase by $92 billion between 1985 and 1990. Of this increase, $20 billion is attributable to civilian and military pay increases, $42 billion results from increases in the cost of goods and services purchased from private suppliers, and $30 billion reflects a catch-up of outlays with prior-year increases in budget authority, as shown earlier in Table II-3. By 1990 the real growth increment is $81 billion, bringing the total growth in defense spending in the baseline to $172 billion.

Entitlements and Other Mandatory Spending

An entitlement program is one that provides benefits to any person, business, or unit of government that meets the established eligibility requirements. Authorization for entitlements constitutes a binding obligation on the part of the federal government, and eligible recipients have legal recourse if the obligation is not met. In addition, as described in Appendix A, other permanent appropriations and certain annually appropriated accounts are treated as mandatory even though the House and Senate Budget Committees do not both consider them entitlements.

Table II-6 divides entitlement and mandatory spending into two broad categories--means-tested and non-means-tested programs. The means-tested category comprises programs that provide cash benefits or services to low-income people. These programs represent 15 percent of entitlement outlays--$66 billion in 1985 and $84 billion in 1990. The largest and most rapidly growing program in the category is Medicaid, with outlays of $22 billion in fiscal year 1985 and $33 billion in 1990. Other means-tested programs include Food Stamps, assistance payments, and Supplemental Security Income.

TABLE II-4. ALTERNATIVE CBO DEFENSE SPENDING PROJECTIONS (By fiscal year, in billions of dollars)

Alternative	1985 Base	Projections 1986	1987	1988	1989	1990
Baseline (Budget Resolution Extrapolated)						
Budget Authority	293	325	360	398	439	485
Outlays	252	282	313	347	384	424
Adjust Budget Authority for Inflation Only (No Real Growth)						
Budget Authority	293	306	321	337	354	371
Outlays	252	276	294	310	327	344

Non-means-tested programs can be further subdivided into Social Security and Medicare, other retirement and disability programs, unemployment compensation, and other entitlement programs. Social Security and Medicare alone account for about $254 billion, or almost 60 percent percent of entitlement spending in 1985; by 1990 they grow to $373 billion, or 65 percent of the entitlement total. Other retirement and disability programs, primarily federal civilian and military retirement, constitute 10 percent of entitlements--$44 billion in the current fiscal year and $61 billion in 1990. Unemployment compensation and other entitlements shrink from 16 to 10 percent of the total over the next five years.

Net Interest

The net interest category principally represents interest costs on federal debt held by the public, including the Federal Reserve System. Interest paid

TABLE II-5. CBO BASELINE OUTLAY PROJECTIONS FOR NATIONAL DEFENSE (By fiscal year, in billions of dollars)

	1985 Base	Projections				
		1986	1987	1988	1989	1990
Military Personnel	66	69	69	69	69	69
Operation and Maintenance	72	78	80	83	86	89
Procurement	71	82	91	99	106	112
Research, Development, Test, and Evaluation	27	30	32	34	36	37
Civilian and Military Pay Raises	2	2	6	10	15	20
Other Department of Defense	6	6	7	7	7	7
Atomic Energy and Defense-Related Activities	7	8	8	9	9	10
Subtotal (Zero Real Growth)	252	276	294	310	327	344
Real Growth Increment	--	6	19	37	57	81
Total	252	282	313	347	384	424

TABLE II-6. CBO BASELINE OUTLAY PROJECTIONS FOR ENTITLEMENTS AND OTHER MANDATORY SPENDING (By fiscal year, in billions of dollars)

Revenue Source	1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
Means-Tested Programs							
Medicaid	20	22	24	26	28	31	33
Food stamps	12	12	12	12	13	14	14
Supplemental Security Income	8	10	10	10	12	11	11
Assistance payments program	8	8	9	9	9	9	10
Veterans' pensions	4	4	4	4	4	4	4
Child nutrition	4	4	4	4	5	5	5
Guaranteed student loans	3	3	3	3	3	4	4
Other	3	2	3	3	3	3	3
Total, Means-Tested Programs	62	66	68	72	77	81	84
Non-Means-Tested Programs							
Social Security	174	185	196	209	224	238	254
Medicare	61	69	76	85	95	107	119
Subtotal	236	254	272	294	319	345	373
Other Retirement and Disability							
Federal civilian a/	22	23	25	26	28	30	32
Military	16	16	18	19	20	21	23
Other	5	5	6	6	6	6	6
Subtotal	43	44	48	51	54	57	61
Unemployment Compensation	18	17	17	17	17	18	18
Other Programs							
Veterans' benefits b/	13	13	13	13	13	13	13
Farm price supports	7	16	12	14	13	13	13
General revenue sharing	5	5	5	5	5	5	5
Social services	4	4	4	4	4	4	4
Other	8	17	6	6	6	6	6
Subtotal	36	54	39	42	42	41	41
Total, Non-Means-Tested Programs	334	370	377	405	433	461	493
Total Outlays	396	436	445	477	510	542	577

a. Includes Coast Guard retirement.
b. Includes veterans' compensation, readjustment benefits, life insurance, and housing programs.

to government trust funds has no effect, since it is counted both as an outlay and a receipt. Net interest costs are very sensitive to the assumptions made about future deficits and interest rates. An increase in the deficit of $10 billion in each fiscal year during the 1985-1990 period, for example, would cause net interest to rise by $400 million in 1985 and $7 billion in 1990, as shown in Table II-7. Because of growing deficits and continued high interest rates, net interest outlays are projected to grow very rapidly. Under baseline assumptions, they grow from $130 billion in 1985 to $230 billion in 1990.

Debt held by the public doubles during the period covered by the projections, reaching $2.8 trillion by the end of 1990. As shown in Table II-8, debt held by the public grows by roughly the amount of combined unified budget and off-budget deficits. Debt held by federal government trust funds grows as the trust funds run surpluses, which are invested in Treasury securities (see following box on funds). Debt subject to limit, which includes debt held both by the public and by trust funds and excludes a small amount of agency and other debt, will reach its statutory ceiling of $1,823.8 billion sometime this summer.

TABLE II-7. EFFECTS ON INTEREST COSTS OF DEFICIT INCREASES (By fiscal year, in billions of dollars)

Deficit Increase	1985	1986	1987	1988	1989	1990
Additional $10 Billion in 1985 only a/	0.4	1.2	1.3	1.4	1.5	1.6
Additional $10 Billion Each Year	0.4	1.7	2.9	4.1	5.6	7.1

SOURCE: Congressional Budget Office.

a. Assumes $10 billion in additional borrowing resulting from changes in revenues or noninterest outlays; further increases in borrowing would result from additional interest costs.

FEDERAL FUNDS AND TRUST FUNDS

The federal budget is divided into two types of funds: federal funds and trust funds.

Federal fund receipts comprise those taxes and other government revenues that are not restricted to a specific purpose. These receipts and, when necessary, borrowing are used to pay for the general activities of the government, such as national defense, interest on the public debt, income maintenance programs, and most nondefense discretionary spending. Federal funds are sometimes called general funds.

Trust funds collect certain taxes and other receipts (such as interest income, insurance premiums, or sometimes, general fund payments) that are earmarked for specific purposes. The largest trust funds pay for federal social insurance programs--Social Security, Medicare, and federal civilian and military retirement--and for highways and airports.

The current government deficit contains a substantial trust fund surplus offset by an even larger federal funds deficit, as shown in the following table.

(In billions of dollars)

	1985	1986	1987	1988	1989	1990
Federal Funds Deficit	-264	-269	-294	-327	-359	-399
Trust Fund Surpluses						
Social Security	8	8	5	27	40	54
Medicare	5	9	15	9	4	2
Federal civilian retirement	16	18	19	20	21	22
Military retirement	12	12	12	13	14	14
Other	8	8	10	10	9	11
Subtotal	50	54	61	78	88	103
Total Deficit	-214	-215	-233	-249	-272	-296

An increase in trust fund revenues (other than by a transfer of federal funds) or a decrease in trust fund outlays will increase the aggregate trust fund surplus and reduce the total deficit. Although trust fund surpluses cannot be used to pay for federal fund expenditures, they do reduce the Treasury's need to borrow from the public. The Treasury, however, must issue interest-bearing debt securities to the trust funds in the amount of their surplus. These debt holdings represent the trust funds' future claim on the government's cash when the funds' earmarked receipts may--for short or long periods--fall below their spending.

TABLE II-8. BUDGET FINANCING AND DEBT (By fiscal year)

	1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
			In Billions of Dollars				
Budget Financing							
Unified budget deficit	175	203	206	225	240	266	290
Off-budget deficit	10	11	9	8	8	6	6
Total	185	214	215	233	249	272	296
Means of financing other than borrowing from the public a/	-14	-1	-1	-1	-1	-1	-1
Borrowing from the public	171	213	214	232	248	271	295
Debt Outstanding, End of Year							
Debt held by the public	1,313	1,526	1,740	1,972	2,220	2,490	2,786
Debt held by government accounts	264	327	383	446	527	617	723
Total, gross federal debt	1,577	1,853	2,123	2,418	2,746	3,104	3,509
Debt subject to statutory limit	1,573	1,849	2,119	2,414	2,743	3,104	3,505
			As a Percent of GNP				
Debt held by the public	36.7	39.6	41.8	44.0	46.0	47.9	49.7

SOURCE: Congressional Budget Office.

a. Primarily seigniorage and changes in cash balances.

Other Spending

Nondefense discretionary spending covers all remaining discretionary programs subject to annual appropriations or to loan or obligation limits imposed in appropriation acts. It includes portions of all budget functions except national defense, net interest, and undistributed offsetting receipts. A large part of this category represents the salary and expense accounts that finance the ongoing operations of the civilian agencies of the government; this includes the legislative, judicial, and tax-collecting functions, the conduct of foreign affairs, and the costs of administering Social Security and Medicare. This category also covers most grants to state and local governments, including those for subsidized housing, highways and mass transit, elementary and secondary education, employment and training assistance, and low-income energy assistance.

Nondefense discretionary spending accounts for $168 billion in unified budget outlays, or 4.3 percent of GNP, in 1985. Since it is generally assumed that no real growth will occur during the projections period, these programs fall to only 3.8 percent of GNP in 1990. Most off-budget spending, described in a box earlier in this chapter, is also discretionary in nature. If both on-and off-budget programs are included, nondefense discretionary spending totals $179 billion (4.6 percent of GNP) in 1985 and $217 billion (3.9 percent of GNP) in 1990.

Offsetting receipts comprise federal government proprietary receipts from the public that are subtracted from outlays rather than being included in revenues, as well as certain intragovernmental transactions. Of the $48 billion estimated in this category for 1985, $26 billion is the federal employer share of employee retirement. Another $6 billion consists of premiums paid by enrollees in Supplementary Medical Insurance (Medicare Part B) and by those who do not have sufficient quarters of coverage for Hospital Insurance (Medicare Part A). The next largest item, $5 billion, is rents and royalties for leases on Outer Continental Shelf tracts. Other receipts are for the sale or lease of minerals, electric power, and timber. Offsetting receipts remain at 1.2 percent of GNP throughout the 1985-1990 period.

REVENUE PROJECTIONS BY MAJOR SOURCE

Baseline revenues are projected to increase 10 percent in fiscal year 1985, reaching $735 billion (19.1 percent of GNP). After increasing much faster than the pace of GNP this year, revenue growth falls slightly below GNP growth in 1986, when revenues are estimated to be $788 billion (19.0 percent

of GNP). From fiscal years 1986 through 1990, estimated revenues increase at an average annual rate of 8.4 percent, a faster rate than GNP, reaching $1.088 trillion (19.4 percent of GNP) by 1990 (see Table II-9).

Receipts in 1985 reflect both healthy economic growth and the first stage of the tax increases enacted in the Deficit Reduction Act of 1984 (DEFRA), the "down payment" on deficit reduction. DEFRA changed the tax code in the following ways: repeal of several scheduled tax reductions, such as the net interest exclusion, and postponement of others; fewer opportunities for income averaging; repeal of some tax advantages available from property leased to tax-exempt entities; modification of accounting rules, such as those for deferred payment transactions; tightened control on abusive tax shelters; a longer depreciation period for real estate; and a higher liquor excise tax. By 1988, the permanent provisions of DEFRA will contribute about 3 percent of total revenues, equaling about 0.5 percent of GNP.

Revenue Growth and GNP Growth

At the end of the projection period, baseline revenue growth will barely exceed that of GNP. Of all revenue sources, only personal income and Social Security (OASDI) tax receipts will still be growing relative to GNP by 1990, and their growth will be marginal. The growth in most other tax sources, including corporate income taxes, will fail to keep pace with GNP growth (see Figure II-3).

Over the past 20 years, individual income taxes rose relative to GNP as growing incomes moved taxpayers into higher tax brackets. This effect (so-called "bracket creep")--especially strong in the high-inflation period of the late 1970s and early 1980s--was offset periodically by legislated tax reductions. A principal reason for the relatively modest increase in the revenue baseline share of GNP over the 1986-1990 period is the automatic adjustment for inflation (indexation) of the personal income tax brackets, zero bracket amount, and the personal exemption that begins this year. Indexation was enacted in the Economic Recovery Tax Act of 1981. In its absence, individual income tax receipts would grow much more rapidly, claiming an additional 1.3 percent of GNP by 1990 (see Figure II-4). Some "real bracket creep"--tax increases stemming from growth in real incomes--remains, of course, and accounts for the projected increase in the baseline share of GNP.

TABLE II-9. CBO BASELINE REVENUE PROJECTIONS BY SOURCE
(By fiscal year)

Revenue Source	1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
			In Billions of Dollars				
Individual Income Taxes	298	333	361	393	432	471	515
Corporate Income Taxes	57	63	71	88	96	102	107
Social Insurance Taxes							
Old Age, Survivors, and Disability Insurance (OASDI)	166	187	199	214	241	262	288
Hospital Insurance (HI)	40	45	51	56	60	64	69
Unemployment insurance	25	26	25	23	23	23	23
Other	8	8	8	9	9	9	9
Excise Taxes							
Windfall profit taxes	9	7	5	4	4	4	3
Other	28	31	29	31	30	30	31
Estate and Gift Taxes	6	6	5	5	5	5	5
Customs Duties	11	12	13	14	15	15	16
Miscellaneous Receipts	17	18	18	19	19	20	21
Total Baseline Revenues	666	735	788	855	934	1,005	1,088
			As a Percent of GNP				
Individual Income Taxes	8.3	8.6	8.7	8.8	8.9	9.1	9.2
Corporate Income Taxes	1.6	1.6	1.7	2.0	2.0	2.0	1.9
Social Insurance Taxes							
Old Age, Survivors, and Disability Insurance (OASDI)	4.6	4.8	4.8	4.8	5.0	5.0	5.1
Hospital Insurance (HI)	1.1	1.2	1.2	1.2	1.2	1.2	1.2
Unemployment insurance	0.7	0.7	0.6	0.5	0.5	0.4	0.4
Other	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Excise Taxes							
Windfall profit taxes	0.3	0.2	0.1	0.1	0.1	0.1	0.1
Other	0.8	0.8	0.7	0.7	0.6	0.6	0.6
Estate and Gift Taxes	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Customs Duties	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Miscellaneous Receipts	0.5	0.5	0.4	0.4	0.4	0.4	0.4
Total Baseline Revenues	18.6	19.1	19.0	19.1	19.3	19.3	19.4

Figure II-3.
Revenues by Source as Percents of GNP

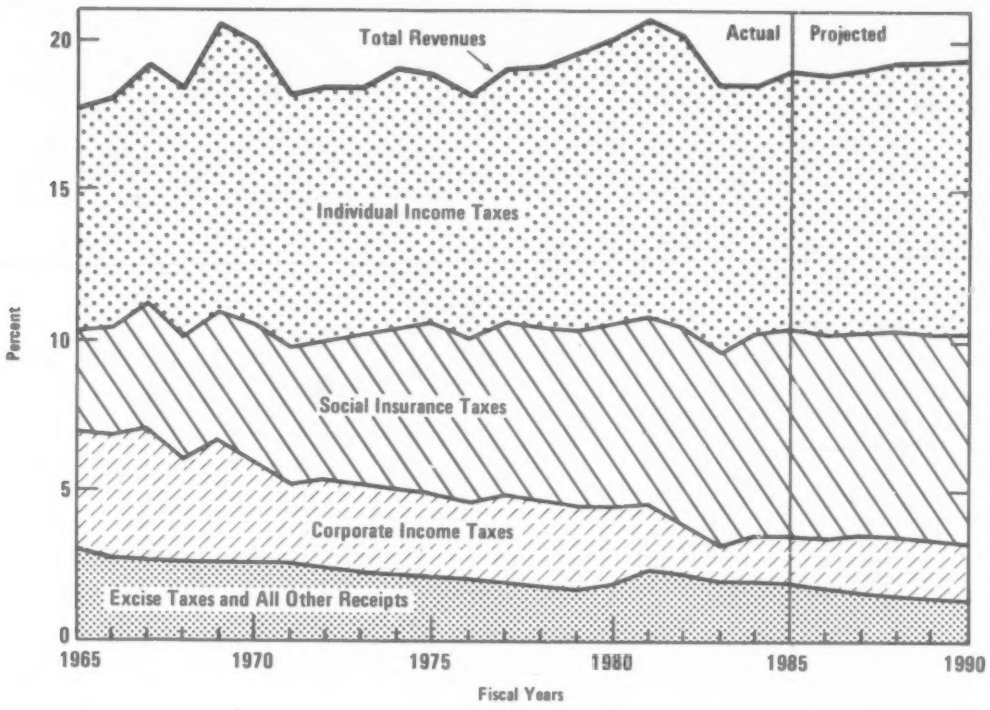
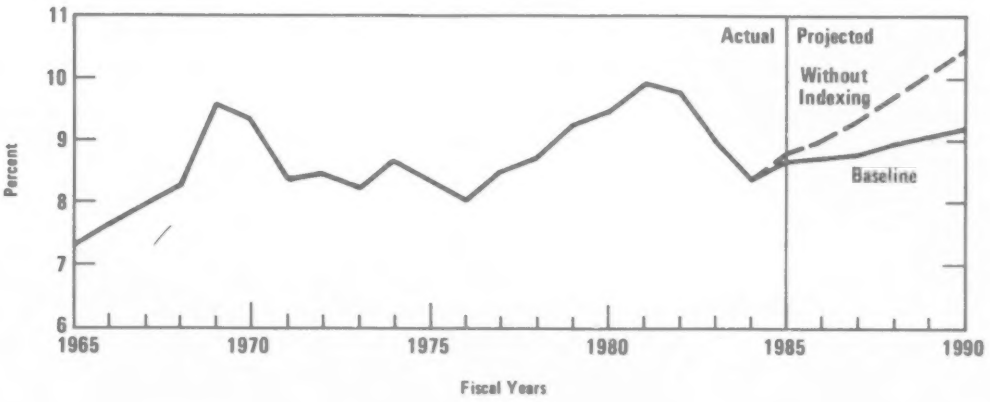


Figure II-4.
Individual Income Taxes as Percents of GNP



Another factor contributing to the relatively modest increase in the revenue share of GNP is moderation in the growth of the social insurance receipts after rapid growth during the 1970s and early 1980s. Under current law, the social insurance share of GNP is projected to increase only 0.1 percent, from 6.8 percent to 6.9 percent, from 1986 through 1990 because of reduced unemployment insurance tax receipts (under the assumption that unemployment continues to diminish). All other tax receipts combined grow marginally more slowly than GNP over the period, decreasing in share from 3.4 percent to 3.3 percent.

The Changing Relative Roles of Various Taxes

Together, individual income and social insurance taxes and contributions are projected to constitute a record 83 percent of total revenues by 1990, the continuation of a long-established trend toward more reliance by the federal tax system on personal taxes. Corporate income taxes increase as a share of total taxes, from 8.5 percent in 1985 to close to 10 percent in 1990. This reflects the assumption of sustained healthy profit levels throughout the 1985-1990 period. Under current law, no long-term increase in the role of corporate income taxes within the federal tax system is foreseen. Reliance on corporate income taxes as a revenue source has been diminishing steadily since the 1950s because of legislated tax reductions and a general downward trend in the share of economic profits in GNP.

Like corporate income taxes, excise taxes diminished steadily in importance as a federal government revenue source through the 1970s. The windfall profit tax enacted in 1980 and the temporary increases in excise taxes enacted in 1982 produced a short-lived increase in the excise share in the early 1980s. By 1990, however, the share of excise taxes in total federal receipts will have shrunk to a new low of 3.1 percent.

BASELINE BUDGET PROJECTIONS UNDER ALTERNATIVE ECONOMIC ASSUMPTIONS

The choice of economic assumptions has a major effect on the baseline budget projections. To illustrate how changes in economic conditions can affect revenues, outlays, and the deficit, CBO has prepared two consistent alternative sets of economic assumptions, described at the end of Chapter I. These alternatives are designed to mirror typical interactions among various

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parts of the economy. This section shows how the baseline deficit projections would differ under these high-growth and low-growth alternatives. The next section of this chapter provides some rough orders of magnitude, or rules of thumb, for gauging the effects of changes in individual economic variables without regard to their historical interrelationships with other variables.

In the high-growth case, revenues as a percent of GNP are generally higher than in the baseline, while outlays are lower, as shown in Table II-10. In the low-growth alternative, the reverse is true. As a result, the deficit, which is relatively flat at about 5.3 percent of GNP in the baseline, declines to 1.9 percent of GNP by 1990 in the high-growth path (see Figure II-5). In the low-growth path, on the other hand, the deficit balloons to 8.7 percent of GNP.

High-Growth Alternative

All categories of spending increase more rapidly in dollar terms in the high-growth alternative than in the baseline to keep pace with the higher assumed rates of inflation. Most entitlement programs are either implicitly indexed for inflation (for example, Medicare and Medicaid, whose outlays rise with the price of medical services) or have explicit cost-of-living adjustments. Discretionary defense and nondefense appropriations are also,

Figure II-5.
Federal Deficit Under Alternative Economic Assumptions

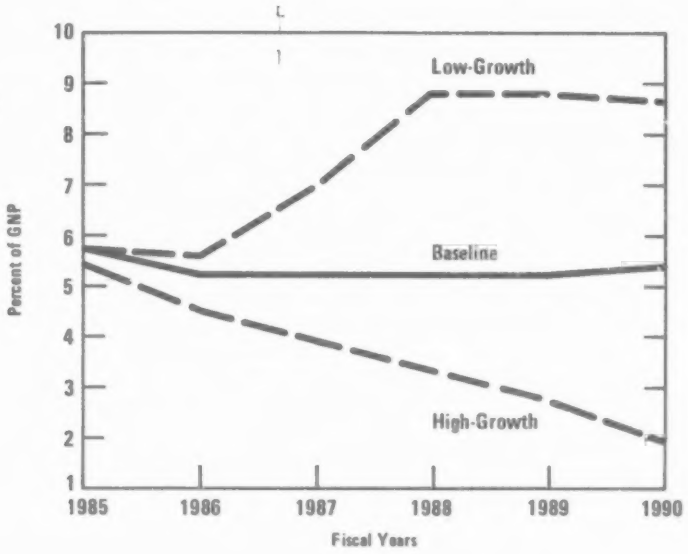


TABLE II-10. CBO BUDGET PROJECTIONS UNDER ALTERNATIVE ECONOMIC ASSUMPTIONS (By fiscal year)

	1985	1986	1987	1988	1989	1990
In Billions of Dollars						
Revenues						
High-growth alternative	736	803	896	1,018	1,156	1,341
CBO baseline projection	735	788	855	934	1,005	1,088
Low-growth alternative	730	777	798	806	858	935
Budget Outlays						
High-growth alternative	934	985	1,069	1,178	1,304	1,460
CBO baseline projection	938	995	1,080	1,174	1,270	1,378
Low-growth alternative	939	1,000	1,087	1,182	1,264	1,354
Total Deficit						
High-growth alternative	210	190	181	168	154	126
CBO baseline projection	214	215	233	249	272	296
Low-growth alternative	220	232	298	384	412	425
As a Percent of GNP						
Revenues						
High-growth alternative	19.0	19.0	19.3	19.8	20.1	20.5
CBO baseline projection	19.1	19.0	19.1	19.3	19.3	19.4
Low-growth alternative	19.0	18.9	18.7	18.7	18.6	19.1
Budget Outlays						
High-growth alternative	24.2	23.2	23.0	22.9	22.6	22.3
CBO baseline projection	24.3	23.9	24.1	24.3	24.4	24.6
Low-growth alternative	24.5	24.3	25.4	27.4	27.3	27.6
Total Deficit						
High-growth alternative	5.4	4.5	3.9	3.3	2.7	1.9
CBO baseline projection	5.6	5.2	5.1	5.2	5.2	5.3
Low-growth alternative	5.7	5.6	7.0	8.9	8.9	8.7

for purposes of these calculations, adjusted for differences in inflation. Because there is also more real growth, however, GNP grows even more rapidly than spending, which therefore falls in relative terms.

Two additional factors modify this basic pattern. First, because unemployment drops more rapidly in the high-growth alternative than in the baseline case, the growth of certain benefit programs is slowed. Lower unemployment reduces the number of people eligible for unemployment compensation, Medicaid, Food Stamps, and assistance payments. As a result, entitlement spending is lower than the baseline in the first few years of the high-growth projection. By the end of the projections period, however, the effect of higher prices dominates.

Second, the lower deficits in the high-growth alternative tend to reduce net interest outlays, but differences in interest rate assumptions also play an important role. At first, the assumed reduction in nominal and real interest rates magnifies the effects of lower deficits, causing net interest spending to fall below the baseline. But in later years, real interest rates are assumed to be higher than in the baseline, which attenuates the effects of the lower deficits.

All revenue sources are higher than in the baseline because of the higher operating rate of the economy and substantially higher nominal incomes, boosted, in part, by the higher price levels. Individual income tax receipts rise because employment and incomes rise. Under current tax law, assumed in all the CBO cases, the effects of inflation on the tax structure are roughly neutralized through indexation to the CPI of the tax brackets, zero bracket amount, and personal exemptions. Increased real incomes, however, continue to move taxpayers into higher tax brackets.

Economic profits rise more than proportionately with GNP, reflecting the sustained boom conditions. Higher investment generates increased depreciation deductions, but corporate income taxes still rise significantly above the baseline levels. Higher interest rates after 1986 increase Federal Reserve profits, most of which are returned to the Treasury.

Low-Growth Alternative

The pattern of spending changes in the low-growth alternative is generally the opposite of that in the high-growth case. Defense and nondefense appropriations are lower, reflecting lower inflation. The lower inflation also tends to reduce entitlement spending, but the increase in the unemployment rate pushes in the opposite direction. On balance, entitlement spending in

the low-growth case is above the baseline for the first few years, when the unemployment effect predominates, but below the baseline in 1989 and 1990, when the inflation effect is more powerful. For none of these program categories, however, is the drop in spending as large as the drop in GNP.

Net interest is the only category of spending that rises not only as a percent of GNP but also in dollar terms. Since deficits are larger in the low-growth alternative than in the baseline, debt service costs are higher. Lower nominal interest rates offset most of the increased debt service costs through 1988 but not in 1989 and 1990, when the assumed drop in interest rates is less than the decline in inflation.

Revenues in the low-growth case are, with the exception of unemployment tax receipts, lower than in the baseline. Lower income growth reduces individual income tax receipts below baseline levels. Social Security taxes fall, reflecting the reduction in wages and salaries. Unemployment insurance tax receipts increase above the baseline level, with a lag, as states raise their tax rates to fund the higher level of benefits required by the weaker labor market. Corporate income taxes are reduced below the baseline level, reflecting reduced profit levels. Federal Reserve profits fall as well, reflecting lower interest rates.

BUDGETARY RULES OF THUMB

While the use of consistent alternative forecasts is the best way to illustrate the sensitivity of the budget to the economy, this section makes the same point in another way. It provides some rough orders of magnitude, or rules of thumb, for gauging the effects on the baseline budget projections of changes in individual economic variables taken in isolation. Because CBO does not rely on rules of thumb for preparing its budget projections, they only approximate how the CBO baseline budget projections would change with a change in the economic outlook.

The rules of thumb summarized in Table II-11 illustrate the budgetary effects of a one-percentage-point change, beginning in January 1985, for four variables: real economic growth, unemployment, interest rates, and inflation. The rules of thumb show that:

- An increase in the real growth rate or a drop in the unemployment rate will increase revenues and decrease outlays and the deficit.

- An increase in interest rates, assuming no change in inflation, will raise outlays and the deficit and will have a small positive effect on revenues.

- Assuming that discretionary spending and interest rates respond to inflation, an increase in inflation will raise outlays and revenues almost equally and therefore have little effect on the deficit.

The estimates shown in Table II-11 are, but for the passage of a year, almost the same as those published by CBO in February 1984. (See *Baseline Budget Projections for Fiscal Years 1985-1989*, pp. 55-68.) Since their assumptions and limitations were described in detail then, they will be only summarized here.

The first two rules of thumb--real economic growth and unemployment--illustrate the effects of different assumptions about overall economic activity. The higher growth case assumes a GNP path rising above the baseline by an additional 1 percent each year, exceeding baseline GNP by more than 5 percent in fiscal year 1990. The lower unemployment case assumes a GNP path that is a constant 2.5 percent above the baseline for the entire period. Both paths assume that a 1.0 percentage point increase in real output is associated with a 0.4 percentage point drop in the unemployment rate.

In the short run, unemployment compensation is the federal spending program most sensitive to the unemployment rate. After a couple of years of higher real growth and lower unemployment, however, most of the change in outlays results from lower debt service costs. Higher real growth increases revenues primarily by increasing total taxable incomes, although it also entails differences in the mix of taxable incomes. Under the assumptions described here, an increase of one percentage point in the real growth rate between now and 1990 would reduce the 1990 deficit by $128 billion. If all of the real growth were assumed to result from higher productivity and none from lower unemployment, the reduction in the deficit would be $10 billion to $15 billion smaller, primarily because there would be no reduction in spending for unemployment insurance.

Higher interest rates increase the deficit primarily by increasing net interest outlays. The subsidy cost of guaranteed student loans also rises automatically with increases in the three-month Treasury bill rate. In total, a sustained one-percentage-point increase in all interest rates causes outlays in 1990 to exceed the baseline by $33 billion. Revenues, however, are little affected. They increase by about $1 billion per year, largely because of higher Federal Reserve earnings on its portfolio of government securities.

Because the baseline projections assume that most revenues and spending are either explicitly or implicitly adjusted for inflation, higher in-

TABLE II-11. EFFECTS ON CBO BASELINE BUDGET PROJECTIONS OF SELECTED CHANGES IN ECONOMIC ASSUMPTIONS
(By fiscal year, in billions of dollars)

Economic Variables	1985	1986	1987	1988	1989	1990
Real Growth: Effect of One-Percentage-Point Higher Annual Rate Beginning January 1985						
Change in revenues	5	16	32	50	70	92
Change in budget outlays	-1	-3	-8	-14	-23	-35
Change in total deficit	-5	-19	-40	-64	-93	-128
Unemployment: Effect of One-Percentage-Point Lower Annual Rate Beginning January 1985						
Change in revenues	20	32	34	35	37	39
Change in budget outlays	-4	-7	-12	-17	-22	-28
Change in total deficit	-24	-40	-46	-52	-59	-68
Interest Rates: Effect of One-Percentage-Point Higher Annual Rates Beginning January 1985						
Change in revenues	a/	1	1	1	1	1
Changes in budget outlays	3	10	15	22	26	33
Change in total deficit	3	9	14	21	25	31
Inflation: Effect of One-Percentage-Point Higher Annual Rate Beginning January 1985						
Assuming Inflation Adjustments in Discretionary Appropriations						
Change in revenues	5	13	24	36	49	64
Change in budget outlays	3	13	25	40	54	71
Change in total deficit	-2	a/	a/	4	5	7
Assuming No Change in Discretionary Appropriations						
Change in revenues	5	13	24	36	49	64
Change in budget outlays	3	12	19	29	35	43
Change in total deficit	-2	-1	-5	-8	-14	-21

a. Less than $500 million.

flation has a small effect on the baseline deficit. The individual income tax, which accounts for almost half of total revenues, is now indexed for inflation. About 30 percent of outlays are directly indexed to changes in the Consumer Price Index or similar indexes. Some other outlays, while not explicitly indexed, tend to respond more or less automatically to changes in the inflation rate. In computing the sensitivity of spending to inflation, CBO assumes that both defense and nondefense discretionary appropriations are adjusted to keep pace with inflation. The CBO also assumes that nominal interest rates will rise by one percentage point with a one-percentage-point increase in inflation. Under these assumptions, higher inflation causes revenues and outlays to grow by almost equal amounts, and the deficit is virtually unaffected, growing only $7 billion above the baseline by 1990. If discretionary appropriations were not adjusted for inflation, however, the 1990 deficit would drop by $21 billion compared to the baseline projections.

While these rules of thumb are instructive, they also have their limitations. First, they are not alternative forecasts. Sustained changes in one economic variable do not generally occur without changes in other economic variables as well. Second, adding up rules of thumb for two or more variables can produce misleading results. Third, one-percentage-point changes in variables were assumed as a convenience and not to reflect typical forecasting errors. For example, a one-percentage-point error in forecasting and projecting interest rates is more probable than a one-percentage-point error in projecting real growth rates over a five-year horizon.

BASELINE CREDIT PROJECTIONS

The CBO projects that annual total federal credit activity will grow slowly from a 1985 base of $117 billion in new direct loan obligations and new primary loan guarantee commitments to $127 billion in 1990 if current policies remain in place (see Table II-12). The 1985 base for direct loans includes, however, a one-time disbursement of $13 billion for the conversion of low-rent public housing financing from federally guaranteed state and local notes to direct federal loans. From 1985 through 1990, new direct loan obligations are expected to increase more slowly than primary guarantees. Net of the one-time disbursement, direct loans will grow from $37 billion in 1985 to $43 billion in 1990. Primary loan guarantee commitments will increase more rapidly, from $67 billion in 1985 to $84 billion in 1990, an increase of 25 percent. Secondary guarantees (the FHA and VA mortgage-backed securities of the Government National Mortgage Association) grow from $34 billion in 1985 to $51 billion in 1990, an increase of 50 percent.

In both direct and guaranteed loans, three or four budget functions predominate in the totals (see Appendix Table B-3 for details). Over the projections period, a nearly constant 78 percent of direct loans is found in the agriculture, commerce and housing credit, and international affairs functions. Between 92 percent and 94 percent of guaranteed loans are commitments made for international affairs, commerce and housing credit, veterans' affairs, and education. Veterans Administration and Federal Housing Administration housing loan guarantees by themselves comprise over 60 percent of total guarantees in each year.

The credit budget is a more complete measure of credit program activity than the spending budget. The spending budget provides an incomplete measure of credit program levels for two reasons: (1) the inclusion of borrowing on a net basis--new loans less repayments; and (2) the inclusion of federal loan guarantees only in the event of default. Because the spending budget operates on a cash flow basis, repayments of old loans count as an offset to new loan outlays. This understates the volume of new lending by the government. Similarly, loan guarantees do not appear in the budget, unless the borrower defaults and the government reimburses the lender. Both of these cash budget conventions understate the extent of federal credit activity. The credit budget records the total volume of new direct loans (that is, to farmers or foreign governments) and of loan guarantee commitments (that is, for home buyers or holders of student loans). Changes in loan and guarantee volume have consequences, although not easily defined, for current and future outlays, the allocation of resources, and the long-term performance of the economy.

TABLE II-12. CBO BASELINE CREDIT PROJECTIONS (By fiscal year, in billions of dollars)

Credit Activity	1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
Net Direct Loan Obligations	39	50	40	41	42	42	43
Primary Loan Guarantees	71	67	68	71	75	80	84
Total	110	117	108	112	117	122	127
Secondary Guarantees	40	34	43	45	47	49	51

The significance of federal credit also should be measured in terms of the benefits provided to federally selected borrowers. These benefits--or subsidies--are the differences between the rates charged the borrowers for direct or guaranteed loans and the rates charged for comparable private loans. Neither the credit budget nor the spending budget measures the extent of these subsidies.

CHAPTER III

THE CONSEQUENCES OF PERSISTENT LARGE BUDGET DEFICITS

A sharp rise in federal deficits in the last few years and projections of a string of very large deficits beyond the end of this decade have been accompanied by a heated public debate about their consequences. The dimensions of the deficit problem facing the Congress and the Administration have been shown in the preceding chapter. The projections indicate that under policies currently in place, eight consecutive years of fairly brisk uninterrupted economic growth would leave the ratio of federal budget deficits relative to GNP, higher than any experienced in peacetime prior to 1982. Such deficits would add rapidly to the federal debt and would also greatly increase the share of GNP that must be devoted to servicing this debt.

Budget deficits, even of the size recently experienced and projected for the next several years, are unlikely to have a sudden destructive impact on the economy. Over a short period they may even have invigorating effects in many sectors, boosting employment and real after-tax incomes, although some sectors--primarily export and import-competing industries--may not share in the general prosperity. Under some circumstances, the overall consequences of temporary deficits, even of large ones, could be beneficial rather than detrimental to the economy. If large deficits persist, however, as CBO projects they will unless the policy is substantially altered, their stimulative effect will wear off and adverse consequences will begin to appear. It may be a long time before these begin to be translated into stagnating or perhaps even declining standards of living, deteriorating public services, or reduced defense capabilities. But even though the damage may be initially difficult to detect, it would become progressively more difficult to undo as the erosion of productive capacity proceeded. This chapter discusses the adverse effects of persistently large deficits in some detail.

Persistently large deficits are opposed for a variety of reasons: that they lead to unusually high real interest rates; that they channel an increasing portion of available savings into federal use; and that they have destructive effects on the foreign-trade sector. Some believe that large

deficits will eventually lead to increased inflation. But while some hints of these and other related consequences of large deficits can be found in economic history, there is no general agreement on the likelihood of those dangers, nor on their magnitude or timing.

One reason for the lack of consensus as to the precise effects of deficits is that the Keynesian theory, which dominated economics until the 1970s, is no longer generally accepted and has not been replaced by another dominant theory. A more important reason for the diversity of views is that experience with very large and persistent deficits during peacetime is quite limited. As a result, it is extremely difficult to obtain solid empirical confirmation or refutation of competing hypotheses formed on the basis of theoretical reasoning.

Despite the resulting diversity of views on the consequences of persistent large budget deficits, the vast majority of economists believe that the present outlook for U.S. fiscal policy is fraught with dangers. One reason is that the deficits are so large in relation to historical experience. But there are also well-founded theoretical reasons for worrying about large deficits. The purpose of this chapter is to discuss some of their consequences in the short run and the long run. 1/

The discussion that follows assumes that any effort to reduce deficits would take the form of across-the-board spending cuts or tax increases. (This is not a forecast or a recommendation, but simply a convenient assumption made solely for analytical purposes.) The discussion assumes further that any negative effects the tax and spending changes might have on economic efficiency would be outweighed by the beneficial effects of deficit reduction. Not all would agree with this; some would place more emphasis on the possible negative consequences. It is indeed possible to think of spending cuts or tax changes that would have very negative effects. But in order to focus on the economic consequences of deficits per se, it is assumed that negative effects are kept at a minimum.

THE ADVERSE SHORT-TERM CONSEQUENCES OF LARGE DEFICITS

The short term approximates a world in which stocks of assets and liabilities change little and the relevant fiscal policy variable to be

1. Needless to say, the long run is a chain of overlapping short runs, and therefore short-run consequences can have an impact on the nation's long-run economic health. The distinction between the short run and the long run is useful, however, as a way of distinguishing between the effects of large deficits on the cyclical behavior of the economy and their effects on long-term economic trends.

analyzed is the budget deficits, not the accumulated government debt. More specifically, changes in the size of debt owed by the government are taken to be small enough in the short run relative to the total stock of wealth to have only a modest effect on the permanent saving decisions of households or the investment decisions of businesses. Furthermore, changes in the existing stock of productive capital are thought to be not large enough in the short run to affect noticeably either the level of output or real returns to the factors of production. Long-term expectations in such a world play a limited role in affecting people's behavior. But the economy in the short run can, and frequently does, depart from what is deemed to be its full potential. The government's fiscal and monetary policies, by affecting aggregate demand, can influence the level of economic activity.

Short-run Interest Rate Effects

Large budget deficits are frequently said to raise interest rates. Concern about the effect of deficits on interest rates stems from their unique role in allocating resources among competing uses, in particular between consumption and investment. To say that large deficits contribute to high interest rates is equivalent to saying that large deficits displace or "crowd out" productive investment. In fact, the blame for all other ills commonly attributed to large deficits stems directly from this assertion. In its simplest form, the argument is that if the government increases its demand for available credit, the price of credit--that is, the interest rate--must go up. An argument often brought against this assertion is that if the increased government borrowing results from a tax cut, then after-tax incomes would rise by the same amount. Some of the increase in incomes will be saved; indeed, all of it will be saved if people expect that increased government debt will have to be serviced by further tax increases. As a result, the borrowing needs of the private sector will decline accordingly, cushioning (or perhaps even preventing altogether) any impact on interest rates.

Another approach, which until fairly recently was readily accepted by a vast majority of economists, is based on standard Keynesian analysis. In its simplest version, Keynesian theory postulates that deficit spending stimulates aggregate demand, thus increasing the demand for money to facilitate a higher level of purchases. If monetary policy remains unchanged, higher demand for money will in most circumstances lead to higher interest rates.

While this theoretical argument appears compelling, a simple test correlating government deficits (as a percentage of GNP) with interest rates would not show that larger deficits are systematically associated with

higher interest rates. If anything, the correlation would likely be negative. There are several reasons for this apparent divergence between the theory and the reality.

- First, interest rates are predominantly determined by the level of economic activity. More specifically, for a given stance of monetary policy, interest rates are determined by the total demand for credit rather than by its particular components. Budget deficits typically increase during periods of economic slack when private demands for credit are low. Since the share of the federal government in total borrowing was until several years ago relatively small, a decrease in private credit demands caused by an economic slowdown was usually much larger in absolute terms than the coincident increase in borrowing by the Treasury. The opposite used to occur during economic recoveries. As a result, total demand for credit tended to be low in periods of economic contraction and high in periods of expansion. The lack of discernible simple correlation between government budget deficits and interest rates is thus not surprising and does not, in itself, demonstrate that there is no connection.

- Second, the theory links deficits to real interest rates--that is, observable nominal rates less the expected rate of inflation. Consequently, simple tests attempting to find a correlation between deficits and nominal interest rates are not appropriate for confirming or refuting the hypothesis in question. Further, since expected inflation rates and thus real interest rates cannot be measured directly, most attempts at testing the relationship between deficits and real rates are subject to dispute.

- Third, the effects of international trade and capital flows are disregarded in the simple Keynesian model sketched out above. In fact, international capital markets have been perfected over time to such an extent that when a rise in the U.S. budget deficits begins to exert pressure on U.S. capital markets, international capital, some of it owned by Americans, will quickly flow in. These inflows may be induced by such small changes in interest rates that the rate increases are difficult to detect statistically.

- Finally, deliberate efforts by the Federal Reserve to stabilize short-term interest rates may have obscured in the past the linkage between deficits and interest rates. Stable interest rates have diminished in importance as a policy goal since late 1979, suggesting that the recorded pattern of correlation between

deficits and interest rates over the last few years could have changed as well.

A variety of empirical studies have attempted to examine the effects of deficits on interest rates in a Keynesian framework embodying one or more modifications of the basic model. Few have uncovered a clear pattern of correlation, let alone a causal link. Most of them--both those that find no relationship as well as those that do--base their conclusions on tenuous evidence. A recent review found that many of their statistical results, whether supporting or denying a relationship between deficits and interest rates, could be reversed by making only minor changes in the statistical relationships tested or in the precise deficit measure used. 2/ The overall conclusion is that the relationships are not only exceedingly complex but also may evolve over time in response to such factors as, for example, shifts in monetary policy, major changes in tax laws, or internationalization of capital markets.

It is extremely difficult to structure models incorporating all these complexities as they change over time, to isolate residual effects of deficits on interest rates, and to test for their quantitative importance. In any case, it is not clear how much relevance studies of past effects have for the current situation. The very size of the recent and projected deficits may have changed the relationship between deficits and interest rates. But large deficits may, under some circumstances, crowd out private productive investment even without having a noticeable impact on interest rates.

- If private investment is very sensitive to interest rates, even a small increase in the rate caused by additional government borrowing may result in significant displacement of private investment. Under such circumstances, harmful effects attributed to large deficits could occur without a discernible shift in interest rates.

- The impact of deficits on interest rates and domestic capital formation is considerably reduced in the presence of international capital flows. If world capital markets were fully integrated and savings generated by foreigners were very large relative to total demand for credit by U.S. residents (inclusive of the government), one would not expect large deficits to have any discernible impact on interest rates. Instead, the flow of foreign capital would result

2. See James R. Barth, George Iden, and Frank S. Russek, "Do Federal Deficits Really Matter?" *Contemporary Policy Issues* (September 1984), p. 80.

in an appreciation of the U.S. dollar and a resulting current account deficit. This is, indeed, the situation today. As a result of capital inflows from abroad, upward pressures on U.S. interest rates have been greatly alleviated so that domestic investment does not appear to be "crowded out." But the effect of these capital inflows on the value of the U. S. dollar crowds out U.S. export and import-competing industries by making it more difficult for them to compete internationally. Moreover, it is quite possible that the U.S. deficit is crowding out capital formation in other countries.

Deficits, Savings, and Private Investment

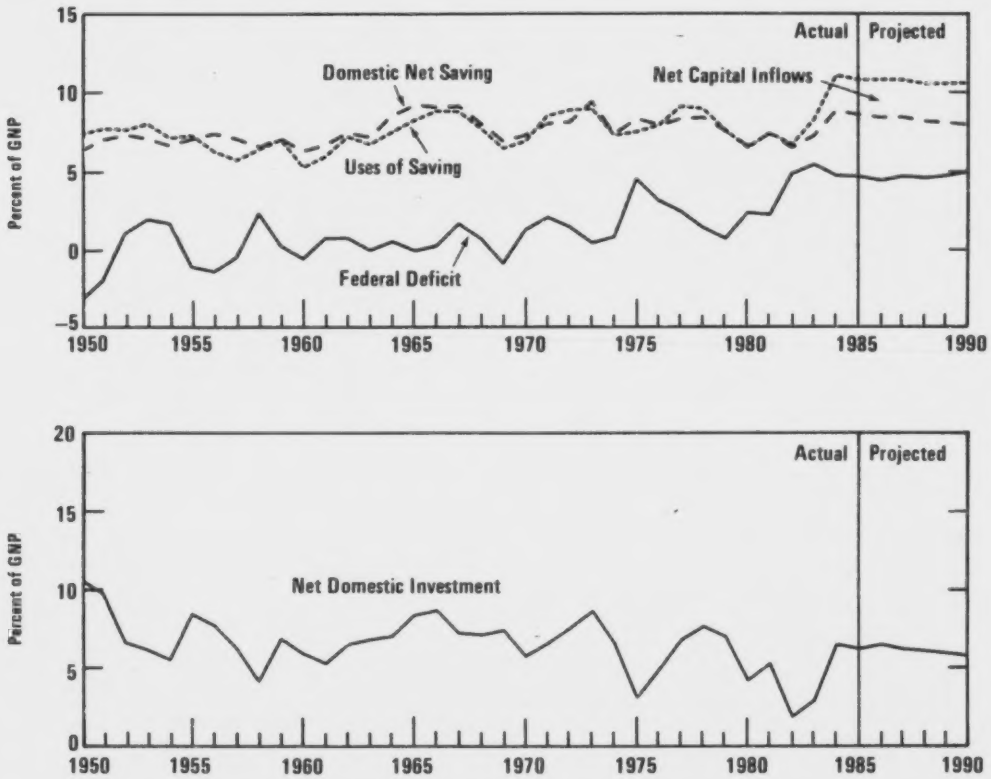
Interest rates ultimately reflect the price or reward paid to savers and serve to allocate saving among alternative uses. The government, because of its insensitivity to interest rates and its unique credit standing, has primary claim on the pool of available credit. The larger the government borrowing requirements are relative to total credit availability, the fiercer will be the competition among private credit users. When the government demands an increasing amount of credit, more private domestic or foreign borrowers are squeezed out of the credit market unless there is a concomitant increase in credit availability. In recent years, government borrowing as a share of domestically generated savings has risen sharply. Net private domestic savings have remained a fairly constant share of GNP since 1950--around 7.2 percent (see Table III-1 and Figure III-1). But federal deficits, as a percentage of GNP, began to climb in the 1970s, and their climb accelerated dramatically in the 1980s. Even though surpluses of state and local governments rose in the 1970s and 1980s, they did not nearly offset the increase in federal borrowing. The average GNP share of net domestic savings left for domestic private investment declined in the 1970s and dropped precipitously in the early 1980s. Average net private domestic investment as a share of GNP also declined during this same period and only last year rebounded to its historical average, even though the severity of the decline was partly alleviated by increased capital inflows from abroad.

Purely as an accounting matter, larger federal deficits must leave fewer resources available for domestic private investment unless there is a fully compensating increase in private domestic saving, in the budget surpluses of state and local governments, in the inflow of foreign savings, or in all of these together. CBO projects that if policy is not changed, the budget deficits (on a NIPA basis) in the next several years will average 4.6 percent of GNP, almost three percentage points higher than in the

1970s. 3/ This means that available savings would have to increase by a comparable amount just to enable net private domestic investment to equal that of the 1970s, when it averaged only 6.4 percent of GNP. (That level,

Figure III-1.

Net Savings and Investment Flows



SOURCE: Congressional Budget Office.

NOTE: Domestic net saving is net nonfederal domestic saving (columns 1 and 2 in Table III-1); Uses of saving is net domestic investment plus the federal deficit (columns 3 and 5 in Table III-1). The difference between domestic net saving and the federal deficit is the amount of domestic savings left for private domestic investment.

3. Budget deficit numbers cited here and displayed in Table III-1 are on a National Income and Product Accounts (NIPA) basis. The NIPA measure of the federal deficit is frequently used for economic analysis. Its construction differs from the unified budget deficit in four aspects: timing of transactions, netting and grossing of receipts against spending, treatment of lending activities, and coverage. For a discussion of these differences, see Congressional Budget Office, *Baseline Budget Projections for Fiscal Years 1985-1989* (February 1984).

TABLE III-1. NET SAVINGS AND INVESTMENT FLOWS AS PERCENT OF GNP (NIPA Basis)

Period	(1) Net Private Domestic Savings	(2) State and Local Surplus	(3) Federal Deficit	(4) Net Domestic Savings Available for Domestic investment: (1)+(2)-(3)	(5) Net Private Domestic Investment	(6) Net Domestic Savings Shortfalls (5)-(4) = Net Foreign Investment
1950-1959	7.2	-.2	-.1	7.1	7.1	-.1
1960-1969	7.8	0	.3	7.5	7.0	-.5
1970-1979	7.2	.8	1.8	6.2	6.4	-.1
1980-1984 a/	6.0	1.3	3.9	3.4	4.1	.7
Average						
1950-1984	7.2	.4	1.1	6.5	6.4	-.1
1985-1990 b/	7.2	1.4	4.6	4.0	6.4	2.4

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

a/ BEA estimates are used for 1984 state and local surplus and 1984 federal deficit.

b/ Only the federal deficit is a CBO projection. Net private domestic savings and net private domestic investment shares of GNP are assumed for illustrative purposes to be at their averages of the 1970s, while the state and local surplus is assumed to maintain its high estimated share of GNP in 1984. Columns 4 and 6 are calculated from the other figures.

Details may not appear consistent with totals because rounding.

which was well below the average of the 1960s, is generally believed to be partly responsible for the slower growth in productivity during the 1970s.) Where will these additional savings come from?

Net private domestic savings fell sharply during the early 1980s, in part because of lingering fears of inflation and in part because of the back-to-back recessions in 1980 and in 1981-1982. But even if one assumes that net private savings will bounce back sharply and in 1985-1990 will match their historical average, and that the combined state and local government surplus will remain at its current historically high level of about 1.4 percent of GNP, with federal deficits (on an NIPA basis) projected to average 4.6 percent of GNP over the next six years, the amount of domestically generated savings left for private domestic investment is expected to average only 4.0 percent of GNP--less than two-thirds of what it was on the average in the 1970s.

Under these conditions, additional savings will be provided by foreigners. If inflows of foreign capital prove to be highly sensitive to interest-rate differentials, a small increase in U.S. interest rates would elicit large capital inflows. These inflows could substantially alleviate the pressures of rising total domestic credit demands, expanded by large deficits, on interest rates. Net private domestic investment could then match the rate that prevailed in the 1970s.

This scenario is broadly consistent with CBO's medium-term projection (see Table III-1). But capital inflows of the requisite size--about 2½ percent of GNP--over a period of so many years would be totally unprecedented in modern U.S. history. Leaving aside the question of the long-term consequences of the resulting buildup in U.S. external debt (which will be discussed later), such capital inflows would probably require the continuation of relatively high real interest rates. This is also assumed in the CBO projection. Such capital inflows would keep the external value of the dollar high relative to recent history, further damaging the competitive position of American export and import-competing industries. Interest-sensitive sectors of the economy engaged in production of nontradeable goods might be largely spared the burden of high government deficits, but only because it would be borne by the foreign trade sector.

At the very least, therefore, the short-run effects of large budget deficits will manifest themselves in sectoral imbalances in the economy. Under the stimulus of government deficits, some sectors of the economy would operate at full capacity while others, especially those competing in foreign trade, would languish.

PERSISTENT LARGE DEFICITS IN THE LONG RUN

The long-run consequences of persistent large budget deficits are considered by most economists to be far more serious than their short-run consequences. While short-run analysis concentrates on relationships among flows of savings, investment, and consumption, and on the cyclical behavior of the economy, long-run analysis focuses on relationships among gradually changing trends in the real capital stock and production, or, in other words, on secular trends in the economy.

The Danger of Runaway Debt

The most insidious danger of persistent large deficits is that they may result in a runaway accumulation of federal debt. Under current budget policy and under its economic assumptions, CBO does not project such an explosive rise in the federal debt. But it could occur if the economy performed much worse than projected, or if spending was raised or taxes lowered beyond levels implied by current policy.

If federal debt were to grow faster than total net private wealth, an ever smaller share of available resources would be left for private capital formation. Should this continue long enough, net private investment could cease entirely and even become negative--the latter implying gradual depletion of the existing stock of physical capital. But such a process could not continue for a long period without provoking political or economic instability.

For a rise in the debt-to-GNP ratio to be nonexplosive--that is, to approach a limit at some point--certain conditions must be satisfied. These conditions are presented in the accompanying box. As a good approximation, the growth path of the debt-to-GNP ratio can be defined in terms of a few key variables:

- The primary deficit--that is, the total (on- and off-budget) deficit, less net interest payments on debt adjusted for Federal Reserve payments to the Treasury;
- The nominal rate of interest on government debt held by the public; and
- The rate of growth of nominal GNP.

DEFICIT AND DEBT DYNAMICS

The issue of debt dynamics and the possibility of instability, implying that the debt-to-GNP ratio could grow without bound, can be illustrated by the following simple example. It will turn out that the issue will depend critically on the values of two measures that will be explained below: the primary surplus and the growth-interest differential.

Suppose for simplicity that GNP grows at a constant rate, n, and that the rate of interest on government debt is also a constant, i. By definition, the change in debt, D, is the deficit, which is given by the excess of expenditures, E, over taxes, T. This relation can be written:

$$D - D_{-1} = E - T, \tag{1}$$

where D and D_{-1} represent the debt at the end of the current and previous periods, respectively, so that $(D-D_{-1})$ is the change in debt during the period (that is, the deficit).

Now consider that some expenditures represent interest payments on the debt outstanding at the end of the previous period. Equation (1) can be rewritten as:

$$D - D_{-1} = E' - T + i\,D_{-1}\,, \tag{2}$$

where E' represents expenditures excluding the service on outstanding debt, given by iD_{-1}. For convenience, call $(E' - T)$ the primary deficit and denote it as X, so that:

$$D - D_{-1} = X + i\,D_{-1}\,. \tag{3}$$

Now let Y denote GNP and assume that the primary deficit-to-GNP ratio is a constant given by x. Dividing equation (3) through by Y and remembering that Y always equals $(1 + n)\,Y_{-1}$ because the growth rate, n, is assumed constant, we can derive a difference equation for the debt-to-GNP ratio, d:

$$d = x + (1 + i)\,d_{-1}/(1 + n)\,. \tag{4}$$

For convenience, approximate $(1 + i)/(1 + n)$ by $(1 + i - n)$. Then the solution of this equation that gives the value of d_t, the debt-to-GNP ratio t periods after starting from an initial value of d_0, is given by:

$$d_t = x/(n-i) + (d_0 - x/(n-i))(1 + i - n)^t\,.$$

If n is greater than i, the growth-interest differential, $(n-i)$, is positive, so $(1 + i - n)$ is a fraction less than one. Therefore, as t grows with the passage of time, $(1 + i - n)^t$ shrinks toward zero, so the process is stable and d tends toward the value given by $x/(n - i)$ no matter what the value of d_0. On the other hand, if i is greater than n, the growth-interest differential is negative and $(1 + i - n)$ is greater than one. Thus, as t grows $(1 + i - n)^t$ also grows. In this case the process is unstable, and the only way to keep d from growing without limit is to choose from the start a primary surplus so that the value of $x/(n - i)$ is equal to the initial debt, d_0. This would keep d from either rising or falling.

The importance of these three variables can be illustrated with a simple arithmetic example. Suppose that the total deficit is exactly equal to the interest bill on the debt--that the primary deficit as defined above is zero. If the average interest rate on the public debt is 10 percent, the outstanding debt will then grow at a rate of 10 percent. If the rate of growth of nominal GNP is also 10 percent, the debt-to-GNP ratio will remain constant.

The differential between the growth rate and interest rate itself is affected by the level of debt relative to GNP. If higher debt levels are associated with higher interest rates, it becomes progressively more difficult to prevent the debt from exploding as it grows and feeds on itself. If the average nominal interest rate on government debt exceeds the rate of growth of nominal GNP in the long run, the debt-to-GNP ratio will rise continuously, unless there is a sufficiently large primary surplus. As the debt burden rises, the size of the interest bill will also grow faster than income. As interest costs become more and more of a burden, the temptation will grow to finance government spending by creating money rather than by borrowing it. If fiscal policies are not changed sufficiently to restore stability, accelerating inflation then becomes almost certain.

If the nominal interest rate is above the rate of growth of nominal GNP and the primary deficit exceeds zero--that is, if government borrowing exceeds interest paid on previously accumulated debt--then the growth of the debt-to-GNP ratio accelerates even faster. A straightforward corollary is that if the primary deficit is constantly growing over time, the process may become explosive even if the nominal interest rate on debt is lower than the rate of growth of nominal GNP. It is only when the growth rate of nominal GNP exceeds the nominal interest rate and the primary deficit is not increasing, that the ratio of the overall deficit to GNP is not rising either. In this case the process of debt accumulation is not explosive--that is, the process is stable. 4/

What are the prospects for the key economic variables that determine the stability of the debt-to-GNP ratio between now and 1990? Historical data, together with CBO's projections for coming years, are summarized in

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4. Stability of a dynamic process, such as debt accumulation, refers strictly to a set of characteristics allowing it to converge toward a finite value. Stability in this context does not mean that the path of debt accumulation need be smooth. Neither does the term "stability" rule out fluctuations in economic aggregates.

Table III-2 and depicted in Figure III-2. They show the primary deficit declining just enough to offset rising interest payments on the debt and thus keeping the deficit-to-GNP ratio (counting both the on- and off-budget deficits) virtually constant at about 5.3 percent between 1986 and 1990. In a strictly formal sense, therefore, the process appears to be sustainable. The projected situation is obviously precarious, however. Interest rates are projected to remain above growth rates through 1990. The projected sustainability of the debt accumulation process is possible only because the primary deficit is declining, which in turn assumes that the economy achieves the projected rates of growth. Should the rate of nominal GNP growth turn out to be lower than projected by CBO in its baseline case, or nominal interest rates higher, or both, the deficit-to-GNP ratio would be a rising one and the debt accumulation process could eventually become

TABLE III-2. PRIMARY DEFICIT, INTEREST PAYMENTS ON DEBT, AND TOTAL DEFICIT (As percents of GNP)

	Primary Deficit a/	Interest Payments On Debt b/	Total Deficit
1950-1959	-0.9	1.3	0.4
1960-1969	-0.3	1.1	0.8
1970-1974	0.1	1.1	1.2
1975-1979	1.3	1.3	2.6
1980-1984	2.1	2.2	4.3
1985	2.6	3.0	5.6
1986	2.1	3.1	5.2
1987	1.9	3.3	5.2
1988	1.7	3.5	5.1
1989	1.6	3.6	5.2
1990	1.5	3.8	5.3

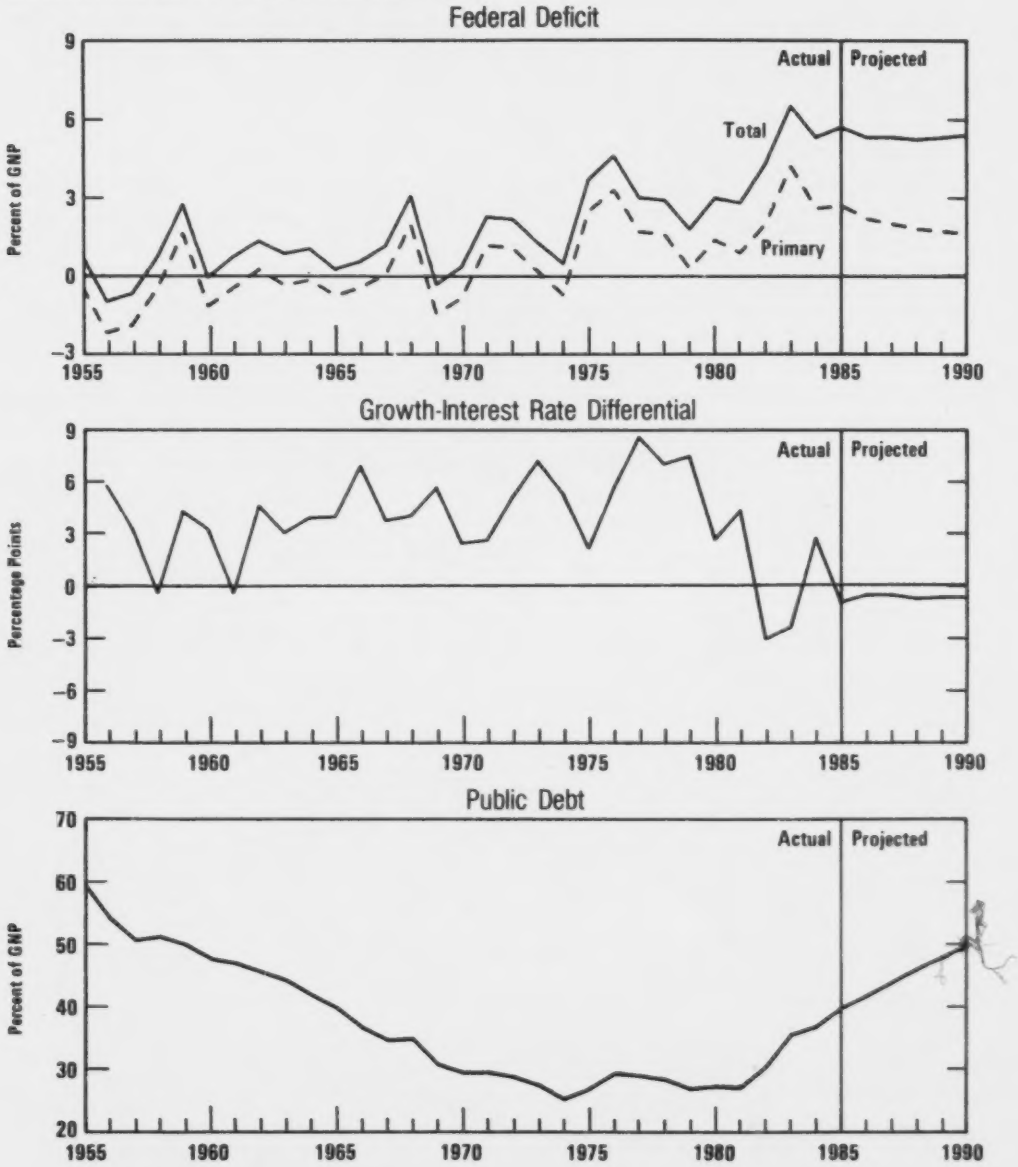
SOURCE: Congressional Budget Office.

Note: All figures are on a unified budget basis.

a. The primary deficit is the total federal deficit (on- and off-budget) less net interest payments, adjusted for Federal Reserve payments to the Treasury.

b. Net interest payments less Federal Reserve payments to the Treasury.

Figure III-2.
Determinants of Debt Accumulation



SOURCE: Congressional Budget Office.

NOTE: The growth-interest rate differential is the growth rate of GNP, less the effective interest rate on federal debt. The primary deficit is the actual deficit, less net interest payments, adjusted for Federal Reserve payments to the Treasury. Data are for fiscal years.

explosive. On the other hand, if the economy performed better than projected, this could hasten the stabilization of the debt-to-GNP ratio. But the very fact that despite the assumption of growth rates exceeding the potential growth of the economy, the debt-to-GNP ratio does not come close to approaching a stable value during the projection period, is evidence of the severe imbalance in U.S. fiscal policy.

CONSEQUENCES OF RAPID DEBT ACCUMULATION

Even if the debt does not grow explosively, the consequences of its long-term rise are serious. Stabilizing the deficit-to-GNP ratio at the current high level of above 5 percent would imply a prolonged buildup of government debt relative to GNP, albeit at a decelerating rate. Such a buildup of debt could have profound long-term effects on the economy and society. These effects, complex and multifaceted, are discussed below under four headings: impairment of capital growth; rising foreign indebtedness; the danger that the Federal Reserve will monetize the debt; and the effects of a large debt on future generations.

Impairment of Long-term Capital Growth and its Consequences

One of the dangers posed by large budget deficits is their effect on capital formation and the long-run growth of output and consumption. If increased government dissaving is not matched by an increase in savings from other domestic or foreign sources, less will be available to finance private investment. As budget deficits add to the outstanding government debt and this debt supplants private physical capital, the rate of return on the ever scarcer physical capital will rise. This should be reflected in a commensurate rise in real interest rates in the capital markets. But it is worth noting that the implied long-run relationship between deficits and interest rates is very different from the short-run relationship discussed earlier. That discussion focused on the possible connection between the deficit-to-GNP ratio and the level of interest rates. In the long run, as a consequence of progressive substitution of government debt for physical capital in private portfolios, and the resulting scarcity of physical capital, real interest rates would be expected to rise. Since, by definition, the deficit is equal to the change in the outstanding debt, one would expect that in the long run the size of the deficit would be related to the change in interest rates and not to their level. This is a very different mathematical relationship from the possible short-run relationship between the level of

the deficit and the level of interest rates. The fact that the long-run relationship manifests itself to some extent even in the short run may explain why the search for a relationship between the size of deficits and the level of interest rates has been so frustrating to many economists. 5/

The harmful effect of rising government debt on private capital formation can be shown in other ways, not requiring knowledge of the precise nature and magnitude of the connection between the level of debt and interest rates. A number of economists have reached this same conclusion by focusing on the cumulative impact of budget deficits on the stock of publicly held debt. As a consequence of continuous large deficits, the ratio of publicly held debt to GNP is projected to rise from almost 40 percent in 1985 to almost 50 percent in 1990. Benjamin Friedman has argued that the total (government plus private) debt-to-GNP ratio has remained fairly constant since World War II at about 1.45--even as components within the total have fluctuated markedly. 6/ If history is a guide, this suggests that the projected increase in the federal debt relative to GNP will leave a smaller share of total debt to finance private capital formation. This conclusion is supported by regression equations that show a significant negative impact of the debt-to-GNP ratio on investment. For example, Makin and Sauer have argued that "deficits sufficiently large to raise the ratio of debt to GNP may serve as a good, exogenous proxy for the expected after-tax rental price of capital." 7/ In other words, expected increases in federal debt relative to GNP may raise expected real interest rates and expected tax burdens. Their empirical findings suggest that a one-percentage-point increase in the change of the debt-to-GNP ratio above what it would be otherwise reduces investment by $75 billion (at an annual rate, in 1984 dollars) spread over five quarters.

A slowing in the pace of net private investment will have an adverse long-run impact on the American economy, both through slowing the growth in the stock of physical capital and by reducing the rate at which new production techniques are introduced. This will slow the rate of productivity and GNP growth, with obvious effects on income and consump-

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5. In the short run, a given level of deficit (relative to GNP) can be associated with either a falling or rising debt-to-GNP ratio. For example, from fiscal year 1983 to 1984 the deficit-to-GNP ratio fell but the debt-to-GNP ratio rose significantly. According to CBO projections, however, both ratios will rise between fiscal years 1984 and 1985.

6. Benjamin M. Friedman, "Implications of the Government Deficit for U.S. Capital Formation," *The Economics of Large Government Deficits*, Federal Reserve Bank of Boston (1984).

7. John H. Makin and Raymond D. Sauer, "The Effect of Debt Accumulation on Capital Formation," *American Enterprise Institute*, Occasional Papers no. 1 (November 1984), p. 2.

tion. In addition to these aggregate effects, the decline in the capital-to-output ratio could be expected to slow the growth of real wages of American labor.

Rising Foreign Indebtedness

The rapid buildup in government debt in recent years has been accompanied by an increasing net inflow of international capital. As a result, the difference between foreign asset holdings by Americans and U.S. asset holdings by foreigners has been rapidly declining to the point where the United States has become, or is about to become, a net debtor nation. (See the accompanying box and Table III-3.) Under CBO's projections, massive inflows of international capital are assumed to continue throughout the rest of the decade if fiscal policy is not changed. These capital inflows and the ensuing increase in net foreign claims on U.S. output are bound to exert a growing influence on the American economy.

Rapid accumulation of external debt need not be accompanied by a similarly rapid rise in foreign holdings of U.S. government securities. 8/ The pace of acquisition of government debt by foreign residents is, however, irrelevant for the task of assessing the connection between the buildup in government debt and an increase in the country's total external indebtedness.

First, private debt (and other private assets) are fairly good substitutes for government securities. To the extent that foreigners buy private U.S. assets, they release domestic savings for purchases of government debt--domestic savings that otherwise would have been used to finance private domestic investment. If this pattern continued long enough, foreigners would end up with the bulk of their dollar-denominated assets in the form of claims on U.S. physical capital while the wealth of Americans would increasingly consist of government securities.

Second, the dominant participants in the international capital markets are U.S.-based institutions with geographically diversified assets and liabilities. In recent years those institutions have chosen to curtail their investments abroad and invest more at home. Thus, while gross purchases of U.S. assets by foreigners appear to have been relatively modest, they were accompanied by disinvestment overseas by U.S. residents. On a net

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8. In fact, foreign holdings of U.S. government debt have risen quite slowly in recent years. (Foreign purchases of nongovernment U.S. assets have also been rising more moderately than the widening of the current account deficit would lead one to expect.)

IS THE UNITED STATES AN INTERNATIONAL DEBTOR?

When the United States imports more goods and services than it exports, it runs a current account deficit that is paid by transferring financial claims to foreigners. Whether this financing takes the form of reducing U.S. claims on foreigners or of increasing foreign claims on the United States, the result is a reduction in the U.S. international asset position. As shown in Table III-3, U.S. current account deficits have totaled over $150 billion in the last three years. At the same time, net U.S. holdings of foreign assets have declined markedly. If these holdings at the end of 1983 were reduced by the amount of the estimated 1984 current account deficit of approximately $100 billion, the United States would currently be very close to becoming a net debtor. The international investment position, however, is affected by changes in the value of assets as well as by the capital flows that finance current account deficits. Movements in interest rates affect the valuation of bond portfolios just as exchange rate changes have an impact on the dollar value of foreign assets. These valuation effects can be significant.

Yet even with these adjustments, the reported net foreign investment position of the United States may not accurately reflect the "true" position. There are two sources of potentially large errors. The first arises from sizable statistical discrepancies in the international transactions data. Rather than attempting to apportion the discrepancy between capital transactions on the one hand and net exports of goods and non-factor services on the other, the Commerce Department assumes that all the errors arise in the current account. The polar opposite assumption would be that the statistical discrepancy arises solely from capital transactions and investment income flows. That could make the U.S. net investment position significantly smaller. This raises the possibility that the United States may have already become a debtor nation.

The second problem for an accurate assessment of the investment position is that direct investment--ownership of a firm's equity in which the ownership share exceeds 10 percent--is carried at historical value. Given the history of inflation here and abroad and the fact that the U.S. net direct investment position was until recently positive and large, valuation on a historical basis may understate the actual U.S. international investment position. Valuation of the direct investment portion on a replacement cost basis taking account of the effect of inflation on the value of assets is likely to produce estimates of the U.S. net investment position much higher than officially reported.

Given these uncertainties of measurement, it is impossible to determine whether the United States is at present a net debtor. But the very large projected current account deficits point to a substantial worsening of the U.S. net investment position in the years to come.

transactions basis, capital inflows (abstracting from errors and omissions) are--by definition--equal to U.S. current account deficits and--also by definition--to the increase in U.S. net external indebtedness.

If the decumulation of U.S. assets abroad coincided with additional investment of equal magnitude at home, then total wealth of U.S. residents would remain unchanged even though its location would be shifting from overseas to the United States. To the extent, however, the depletion of American-owned assets abroad simply allows temporary maintenance of current consumption in the United States at an otherwise unsustainable level, the foreign component of American-owned wealth will shrink without a matching increase in its U.S.-located component.

TABLE III-3. EXTERNAL FINANCIAL POSITION OF THE UNITED STATES (In billions of dollars)

	U.S. Current Account Balance	Balance of Payment Statistical Discrepancy	Net International Assets a/
1970	2.3	-0.3	58.5
1971	-1.4	-9.8	45.5
1972	-5.8	-1.9	37.0
1973	7.1	-2.7	47.9
1974	2.0	-1.5	58.7
1975	18.1	5.9	74.2
1976	4.2	10.5	83.6
1977	-14.5	-2.0	72.7
1978	-15.4	12.5	76.1
1979	-1.0	25.4	94.5
1980	1.9	25.0	106.1
1981	6.3	22.3	143.1
1982	-9.2	32.9	149.5
1983	-41.6	9.3	106.0
	Projected		
1984	-103.0	0	3.0
1985	-109.0	0	-106.0
1986	-130.0	0	-236.0

SOURCES: U.S. Department of Commerce, Bureau of Economic Analysis; Congressional Budget Office.

a. Data for 1984 through 1986 based on CBO estimates and projections of the current account balance.

To the extent that rising government debt contributes to higher real rates of return in this country, one would expect dollar-denominated assets to become more and more attractive relative to assets denominated in other currencies. Indeed, statistical estimates of the responsiveness of international capital flows to interest rates--although it varies over time--indicate that the differential between U.S. and foreign interest rates is an important determinant of capital flows. 9/

By providing an additional source of funds to the U.S. economy, net capital inflows induced by federal deficits tend to make domestic interest rates lower than they would be otherwise. Thus, it is most likely that domestic interest rates are higher than they would be in the absence of persistent large government deficits, but are lower than they would be if sources of foreign capital were not available. On the other hand, by allowing a net export deficit, net capital inflows tend to lower the level of domestic output. In fact, much of the economic stimulus from federal deficits may eventually be transferred abroad through the trade effects of real exchange-rate appreciation induced by capital flows. 10/

Since capital inflows lower interest rates and also finance an import surplus, they make more resources available to the United States. If the additional resources are used for investment capable of generating returns exceeding the real rate of interest paid on foreign debt, the United States by attracting capital from abroad, where the expected real return on investment is presumably lower, can be said to contribute to its own and other countries' well-being just as it did in the nineteenth century when large capital inflows helped finance the development of U.S. canals and railroads. But if current capital inflows serve only to sustain more or less normal levels of U.S. net investment while domestic savings are drained off to finance additional consumption through budget deficits, then the United States is not generating sufficient additional production to pay the interest and dividends on the growing foreign debt.

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9. This is particularly true of portfolio investment flows, and is probably true of direct investment flows as well, because U.S. direct investment flows frequently reflect borrowing in the Eurobond market by U.S. companies through their foreign affiliates.

10. In the extreme, if international capital were sufficiently mobile and if the American economy were sufficiently small relative to the rest of the world (which is demonstrably not the case), the entire fiscal stimulus would be transferred abroad by net capital inflows; both the rate of interest and the level of aggregate output would be the same as in the absence of the internal and external deficits.

A question arises as to how long and to what extent this process can be sustained. If it is to continue, holdings of dollar assets by foreigners must grow very rapidly, perhaps further increasing as a share of their total wealth. Ultimately, it is likely that the amount of dollar assets in international portfolios would become too large relative to the total wealth of foreigners. In order to restore the desired composition of their portfolios, international investors might deny additional funds to U.S. borrowers except at higher interest rates. As capital inflows slowed, or ceased entirely, domestic interest rates could rise, perhaps sharply, and growth in the federal debt could become explosive.

Eventually, the dollar would have to depreciate sufficiently to allow a trade surplus large enough to finance interest and amortization payments on the external debt. Domestic export and import-competing industries, which had already undergone contraction in response to real appreciation of the dollar, would then face a second round of adjustment costs as they expanded in response to declining real dollar exchange rates. Since domestic spending would have to fall below domestic output, it is quite possible that consumption per capita would shrink.

Before this point was reached, foreign capital inflows might continue for a very long time and on a massive scale. Americans would enjoy increased purchasing power over foreign goods and services. But they would be borrowing from future generations through the government deficit, and through the export deficit as well. As the rest of the world accumulated a mass of claims against the United States, the ratio of net external debt to GNP could become very large, much as it did for major Third World borrowers during the late 1970s and early 1980s. Growing foreign claims would mean that an increasing portion of U.S. productive capacity would be owned by foreign residents, and more and more of the U.S. labor force would be working for foreign owners of U.S. capital.

While the above analysis has developed a link between U.S. budget deficits and net inflows of international capital, other factors may also contribute to inflows. The relative political stability of the United States, and sluggish economies in other countries, make the United States relatively attractive to investors. A more prudent U.S. policy might so enhance investor confidence in the long-run health of the U.S. economy that capital inflows would increase as U.S. deficits fell. If that happened, United States interest rates could be expected to fall dramatically, and a higher proportion of U.S. plus foreign savings would be invested in increasing productive capacities.

Debt Monetization

Another danger of persistent large deficits and resulting high debt levels is that the Federal Reserve might decide to step up its acquisition of government debt. This is most likely to happen if the central bank placed a high priority on stabilizing interest rates. If the deficits began to push up interest rates, the Federal Reserve might seek to relieve some of the pressure by increasing its holdings of government debt. Substantial additions to its portfolio would raise the monetary base and the money stock above the levels that would obtain otherwise, and could ultimately lead to more rapid inflation. Conversely, if the Federal Reserve downgraded the goal of interest rate stability and put greater importance on maintaining a constant growth rate of the money supply, it would, by definition, be attempting to rule out the possibility of monetization.

This question about the Federal Reserve's behavior has been subjected to a number of empirical tests, the conclusions of which, as might be expected, are mixed. Some economists believe they have found consistent and relatively stable tendencies to monetize government debt, while others believe that no such tendencies can be uncovered.

The accompanying charts contain historical data on the ratio of the monetary base to publicly held government debt, and on the ratio of changes in the base to deficits. They suggest that monetization rose sharply from the early 1960s through the middle of the 1970s, but has dropped just as sharply since that time (see upper panel, Figure III-3). This decline in debt monetization need not indicate that future deficits may not be inflationary. The decline in the ratio of the monetary base to debt has occurred concomitantly with a precipitous increase in government debt levels, so that, even at the lower monetization rates, the amount of debt being monetized is large in absolute terms. For example, if the deficits projected by CBO for the years 1985-1990 were monetized at the 1984 historical rate, the addition to the stock of debt of almost $1.5 trillion would contribute about $130 billion to the monetary base. Assuming a money multiplier of 2.8--about the 1984 average--the money supply would expand by about $364 billion, for an average growth rate over the period of 9.0 percent. 11/

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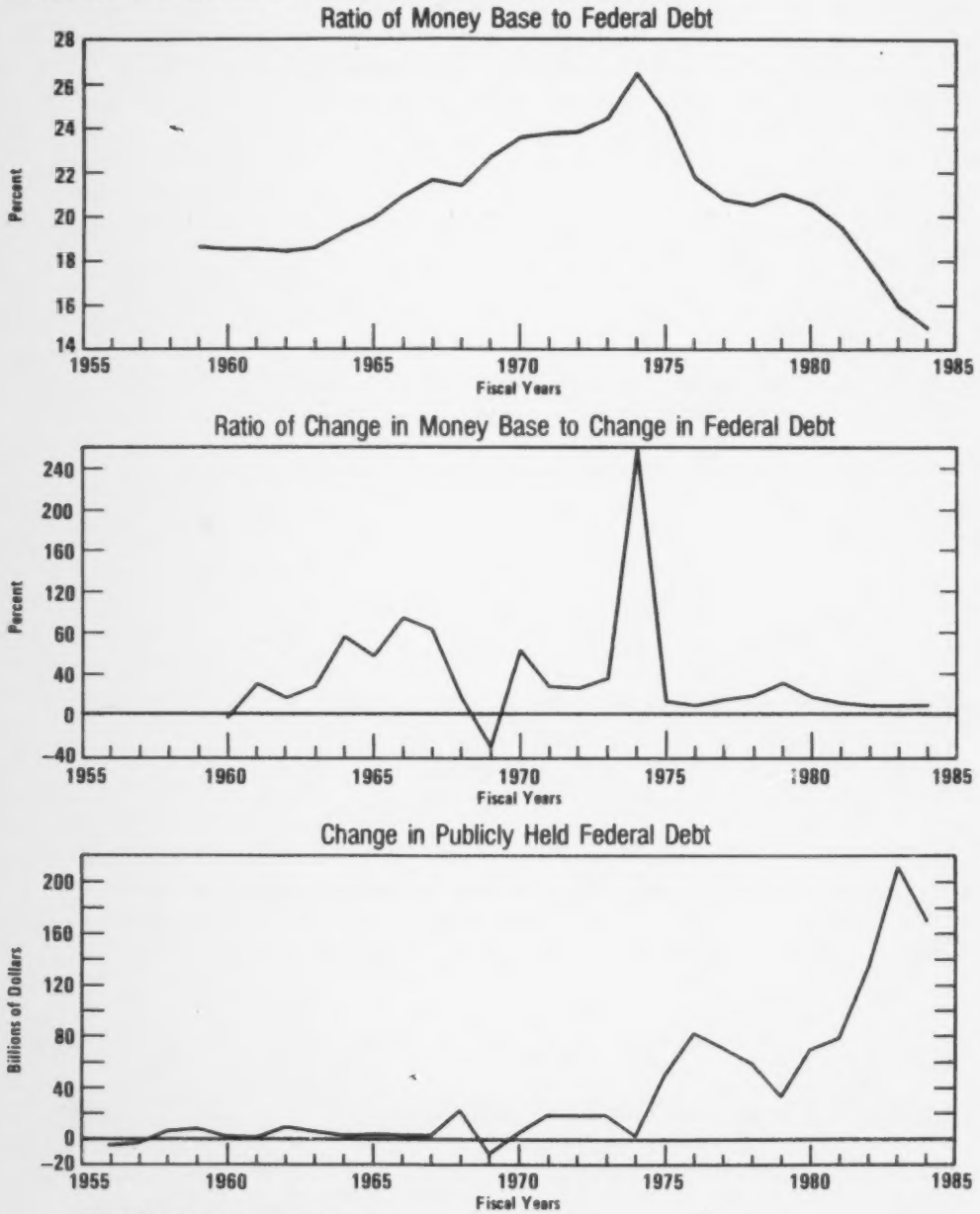
11. The money multiplier is the ratio of the money stock to the monetary base and is meant to describe the relationship between these two variables.

Figure III-3.
Selected Measures of Federal Debt Monetization



SOURCE: Federal Reserve Board.

NOTE: Data on the monetary base are for the last month of the fiscal year, not seasonally adjusted. Data on total publicly held government debt, including federal agency debt, are for the end of the fiscal year, not seasonally adjusted.

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Since historical extrapolations are sometimes biased by aberrations in data occurring in the most recent periods, CBO also reestimated an equation formulated by Hamburger and Zwick relating money growth to deficits. 12/ Forecasts of money growth using this reestimated equation and CBO deficit and price projections generated somewhat lower growth rates than the historical extrapolation--8 percent to 8½ percent annually over the same period. Thus this forecast calls for money growth above the Federal Reserve's preliminary M1 target for 1985 of 4 percent to 7 percent. In other words, by announcing such a target, the central bank is, in effect, stating that it plans a lower degree of monetization than may have occurred in the past.

Even if it were not implicitly restricted by its desire to achieve a money growth target, some evidence suggests a lower tendency to monetize when deficits are large--that is, the Federal Reserve appears to be less willing to monetize the same proportion of a large increment of debt than it is of a small increment. Hamburger and Zwick and the CBO economists all noticed that the propensity to monetize was lower than suggested by this equation during 1975 and 1976--years of excessively large deficits. If this holds in the future, estimates of money growth from the equation reported above may overstate the monetization pressures. On the other hand, the deficits in 1975 and 1976 may have been viewed as more transitory than those of the 1980s. It is conceivable that persistently large deficits and growing debt levels in the 1980s, in conjunction with strong private-sector credit demands, may force the Federal Reserve into monetizing more of the debt than in the past. In any event, the size of projected deficits will continue to pose problems for a monetary policy concerned with controlling inflation while maintaining stable interest rates.

Many do not accept the above evidence of an automatic tendency to monetize in the past. Technically, monetization does not have to occur. If it did occur in the past, it need not continue since the Federal Reserve can change its goals and operating procedures--as it has in the past.

The Issue of Intergenerational Fairness

Whether the long-term consequences discussed above take the form of slower long-run capital growth per worker, the accumulation of foreign claims on U.S. output, or the reduction in the value of private liquid wealth

12. Michael J. Hamburger and Burton Zwick, "Deficits, Money and Inflation," *Journal of Monetary Economics*, vol. 7, no. 1 (1981), pp.141-150.

through inflation, they all amount to intertemporal shifts in consumption between the present and future generations.

The dissaving represented by the budget deficit allows present consumption to rise at the expense of future consumption. Although there is considerable uncertainty as to the empirical magnitudes involved, two related analytic approaches have been pursued in an effort to estimate them. The first approach attempts to calculate the present value of the consumption loss that arises as a result of current budget policy. Rough estimates of the effect of an increased federal debt-to-GNP ratio on private investment are made and then the impact of this investment shortfall on future consumption is gauged. Calculations by John Makin indicate that the rise in the debt-to-GNP ratio occurring or projected to occur in the 1979 to 1989 period leads to consumption losses of approximately $880 billion (in 1984 dollars). 13/ This is not a statement that consumption in the 1979 to 1989 period is lowered by the rise in the debt-to-GNP ratio. Rather, it is a measure of a difference between two long-run consumption streams, one that would occur under present circumstances and another that would have occurred in the absence of enlarged budget deficits in 1979-1989.

An alternative approach pursued by Edward Gramlich attempts to determine the period of time over which the large deficits of the 1980s can be expected to raise present consumption above the path that would have occurred if the deficit-to-GNP ratio had stayed more in line with its levels in the 1970s. 14/ Here the goal is not to value present consumption gains against future losses. Rather, Gramlich examines the horizon over which the direct increase in consumption afforded by the budget deficits is great enough to outweigh the losses to future consumption brought by the accompanying shortfall of investment. Depending on the particular assumptions employed, his results suggest that consumption would not fall below the levels that would have been achieved with smaller deficits for a period from 12 to 25 years.

These results indicate that any net increases in per capita consumption that might be brought about by deficit reductions would lie many years into the future, but would grow at an increasing rate. Setting aside all the other arguments against running large deficits over many years, a question arises as to the effects of deficit reductions on the consumption levels of later

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13. John H. Makin, "The Effects of Government Deficits on Capital Formation," *Contemporary Economic Problems 1985: The Economy in Deficit*, American Enterprise Institute for Public Policy Research, Washington, D.C. (forthcoming).

14. Edward M. Gramlich, "How Bad are the Large Deficits?", in Gregory B. Mills and John L. Palmer, eds., *Federal Budget Policy in the 1980s*, The Urban Institute Press (1984).

generations. 15/ Proponents of deficit cuts argue that since most future generations are unrepresented in this debate, special measures must be taken to give fair consideration to their interests.

Economic theory cannot by itself determine a "fair" distribution of consumption between present and future generations. Such determination involves, among other things, a political value judgment. Economists have, however, explored the implications of one explicit value judgment known as the "golden rule." This would be a saving rate (that is, a percentage of GNP devoted to saving) that would maximize the permanent per-capita consumption of all generations. 16/ As long as all generations followed the rule and saved the same percentage of GNP (and the consumption levels enjoyed by different generations were valued equally, without discounting future consumption), the result would be intergenerationally "neutral" or "fair". Rough calculations based on the golden rule suggest that Americans at present appear to be dissaving or consuming too much to be "fair" in this sense. This would imply that saving should be increased. Reducing the deficit would be one way of achieving this goal. 17/

Such analyses provide little practical guidance to policy, however, because they require a multitude of assumptions, not all of which would be accepted by most observers. For example, there is no good reason other than the appeal of simplicity to postulate a saving rate that is constant over time. Since most analysts expect future generations to enjoy higher standards of living than the present one, it might be argued that people

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15. This view of the consumption implications of deficit-reducing is potentially misleading, however, because much of what the federal government provides through deficit spending also represents consumption for society. Cutting the deficit would reduce government-provided consumption enough to offset any gains in private consumption for some time. Whether citizens value their individual consumption and collective government-provided consumption equally is another question.

16. Edmund S. Phelps, "The Golden Rule of Accumulation: A Fable for Growthmen," *The American Economic Review*, vol. 51 no. 4 (1961), pp. 638-43.

17. Reducing the deficit may not increase consumption for later generations if individuals today neutralize the effects of decreased borrowing by the government. For example, individuals may now be saving extra money to help their descendants pay interest and principal on the national debt. If the deficit were reduced, such extra saving might also be reduced. See Robert J. Barro, "Are Government Bonds Net Wealth?", *Journal of Political Economy*, vol. 82, no. 6 (1974), pp. 1095-1118.

living today should consume a larger share of their income in order to make present and future consumption levels more nearly equal. But even this would not justify unlimited deficits. Aside from the stability problem discussed earlier, there is a limit--albeit difficult to determine--to how much consumption should be shifted forward in time. Certainly, no principle of equity would justify making future generations worse off than the present one.

GOALS FOR DEFICIT POLICY

What ought to be the goals of a policy aimed at reducing the size of federal deficits? Many different proposals have been put forward, but most can be grouped into four categories. Some would try to set the deficit or debt at a particular level. Most often this approach aims at balancing the budget (either continuously or over the course of the business cycle) or stabilizing the debt relative to GNP. A second, somewhat less stringent approach would allow budget deficits during recessions, but would require a balanced structural budget (the budget computed as though some high level of employment obtained). A third category of proposals would use deficits to maximize social welfare over the long term--for example, maximizing long-run consumption. A fourth category would tolerate deficits that serve to reduce inefficiencies associated with frequent changes in tax rates.

A Balanced Budget or a Stable Debt Level

The most common proposal involves balancing the budget. It is based not so much on economic arguments as on the feeling that government spending should be disciplined by restraining it to the level of tax receipts. 18/ This view does not recognize any role for the federal government in stabilizing the economy.

A related but less restrictive approach would balance the budget over the course of the business cycle. It would allow deficits during periods of economic slack, provided that they were offset by surpluses during economic booms. Thus, unlike the balanced budget rule, this norm does not

18. Unless a desired level of taxation is specified, balancing the budget does not directly deal with the issue of what is the appropriate size of the federal sector. The reason is that the budget can be balanced with federal outlays and revenues representing large or small shares of GNP.

force the budget to be procyclical in its effect on the economy. 19/ It resembles a balanced budget norm, however, in that it incorporates the popular view that over time the federal government should not incur debt by allowing federal spending to outstrip federal revenues, on average.

Proponents of stabilizing the debt-to-GNP ratio are willing to tolerate some long-term deficit spending. They believe that federal debt can be absorbed without raising interest rates so long as it does not grow faster than GNP. If interest rates were constant, this policy norm would ensure that the federal interest bill relative to GNP would also remain constant. Proposals to stabilize the debt-to-GNP ratio do not state specifically at what level the target should be set. If it was set much higher than the actual ratio at any given time, this would allow a series of growing deficits for some time. Conversely, if the selected ratio was lower than the actual one, declining deficits (relative to GNP) or possibly even budget surpluses would be required to reach the policy goal. Moreover, even if everyone agreed on the desired debt-to-GNP ratio, this policy rule--like other norms discussed here--would not deal with the question of time. The length of time over which the budget was to be brought into balance, or the debt-to-GNP ratio stabilized, would have a considerable effect on the size of deficits in the interim.

A Balanced Structural Budget

A second class of proposals is based on the idea that the federal budget should provide passive (nondiscretionary) fiscal stimulus and restraint. For example, policymakers might seek to maintain a balanced structural deficit--that is, a balanced budget standardized at a specific rate of unemployment. The rate of unemployment usually suggested is the lowest rate of unemployment consistent with a constant rate of inflation (in the absence of supply shocks). Although highly uncertain, estimates of the "nonaccelerating inflation rate of unemployment" (NAIRU) are generally about 6 percent to 6½ percent. 20/

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19. Such a rule has little advantage over a strict budget balancing rule for those who assume that fiscal policy has little short-run impact on the economy. Furthermore, neither of the two rules allows for borrowing to finance public investment in capital assets.

20. See footnote 8 in Chapter 1.

Balancing the structural deficit would mean that the actual budget would be in deficit when the unemployment rate exceeded the NAIRU, in surplus when the rate of unemployment was below the NAIRU, and in balance when the economy was at the NAIRU. Such a policy would allow cyclical changes in revenues and outlays to act as automatic stabilizers of output and employment in time of economic slack, and as automatic stabilizers of interest rates, exchange rates, and inflation when economic resources are fully employed. 21/ At the same time, it would rule out all other discretionary fiscal actions by the government designed to stabilize the economy.

Balancing the structural budget would not be equivalent to balancing the budget over the course of the business cycle. The reason is that, on average, the unemployment rate observed in the economy has been higher than most estimates of the NAIRU. As a result, the nominal federal debt would grow over time because the deficits incurred when the unemployment rate exceeded the NAIRU would cumulate to a larger sum than the surpluses incurred when the unemployment rate was below the NAIRU. In contrast, a policy that balanced the budget over the course of the business cycle would not result in long-run increases in the federal debt, because the deficits that generate debt during periods of economic slack would be offset by debt-reducing surpluses during periods of below-average unemployment.

The CBO projects the structural deficit (standardized at 6 percent unemployment) as rising from $171 billion in 1985 to $282 billion by 1990 (see Table III-4). In comparison, the middle-expansion deficit--the deficit standardized at trend rates of unemployment--rises from $227 billion to $361 billion during the projection period. Balancing the budget over the course of the business cycle (a balanced middle-expansion deficit) would entail substantially more deficit reduction than balancing the budget at a 6 percent rate of unemployment. 22/

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21. It has been argued that instead of balancing the structural deficit, an optimal policy would be to maintain a structural budget surplus. The rationale is that government surpluses could offset any reduction in private saving resulting from income taxation. Capital accumulation could then follow the path that would be realized in the absence of income taxes. See Martin J. Bailey, "The Optimal Full-Employment Surplus," *Journal of Political Economy* (1972), vol. 80, no. 4 pp. 649-61.

22. If productivity growth was stronger than expected, federal revenues measured at any rate of unemployment would be greater, and thus the amount of deficit reductions needed to balance the structural deficit at 6 percent would be less.

TABLE III-4. ALTERNATIVE MEASURES OF THE FEDERAL DEFICIT
(In fiscal years and billions of dollars)

	1984	1985	1986	1987	1988	1989	1990
Unified Budget Deficit	175	203 d/	206	225	240	266	290
Off-budget outlays	10	11	9	8	8	6	6
Total Deficit	185	214	215	233	249	272	296
Standardized-Employment Deficit a/ b/	121	171 d/	177	199	221	251	282
Middle-Expansion Deficit a/ c/	173	227 d/	237	263	290	324	361
Publicly-Held Federal Debt	1313	1526	1740	1972	2220	2490	2786
(Percent of GNP)	36.7	39.6	41.8	44.0	46.0	47.9	49.7

SOURCE: Congressional Budget Office.

a/ Includes off-budget outlays.

b/ Standardized at 6 percent unemployment.

c/ The middle-expansion deficit is a budget measure that is standardized at trend levels of output and unemployment rates. Its size is much larger than the structural deficit measured at 6 percent unemployment, but its change from one period to the next is similar in magnitude. For a discussion of the middle-expansion deficit, see Frank de Leeuw and Thomas M. Holloway, "Cyclical Adjustment of the Federal Budget and Federal Debt," *Survey of Current Business*, vol. 63, no. 12 (December 1983), pp. 25-40. See also Congressional Budget Office, *The Economic Outlook* (February 1984), Appendix B.

d/ Includes $13 billion in budget outlays arising from HUD purchases of federally guaranteed notes issued by housing authorities. Such a financial transaction would not be included in a measure of the structural deficit reported on an NIPA basis, but CBO has included it because the CBO estimate is reported on a unified budget basis.

Deficits to Maximize Per Capita Consumption

A third norm for guiding deficit choices would be maximizing domestic per capita consumption now and in the future. Deficits increase current consumption as long as they finance government spending on consumption rather than on public investment, as is largely true in the United States now. But they may reduce future consumption if they crowd out private investment in productive capital.

Reductions in potential output that are caused by budget deficits can be roughly estimated by comparing the present outlook with an alternative in which the structural deficit is reduced in 1985 and all later years to the proportion of potential GNP that it represented during the 1970s. Assuming that all private savings freed by cutting the deficit would be used to increase net capital formation implies that potential GNP in 1986 (the GNP level that would occur at high levels of employment) would be perhaps 0.1 percent or roughly $4 billion higher than it would otherwise be (in 1984 dollars). By 1990, these increases would grow to roughly 0.7 percent or $31 billion, and by 1999 to perhaps 2.0 percent of potential GNP. 23/ These increases in potential GNP would raise potential consumption correspondingly.

Other assumptions would no doubt yield very different magnitudes of permanent consumption losses associated with recent and projected budget deficits. The key issue, however, is that in principle there exists a particular rate of saving by society as a whole, and by the government in particular, that maximizes the value of future consumption.

As mentioned earlier in this chapter, economists have attempted to calculate this consumption-maximizing saving rate and the deficit that it implies. Their conclusions are that there may be a particular "golden rule" saving rate that, if maintained permanently, would maximize consumption for all generations. The specifics of such "golden rule" calculations should not be taken too literally, since the simplified analysis that they use is strictly valid only for the very long run and fails to take account of certain important features of the economy. One such feature is the presence of net flows of saving between the United States and other countries. If net inflows of foreign saving to the United States increase when deficits do, as

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23. These calculations were made using the growth model described by Edward Gramlich in Table 5, Version A of "How Bad Are the Large Deficits?" in Gregory B. Mills and John L. Palmer, eds. *Federal Budget Policy in the 1980s*, The Urban Institute Press (1984), pp. 43-68.

has happened recently, then a particular domestic saving rate does not have precisely the same implications for future consumption as it has in the "golden rule" analysis. The reason for this is that capital inflows make it possible to enjoy higher current consumption and higher investment at the same time. While "golden rule" calculations taking account of the availability of foreign saving for domestic capital formation are not available as yet, many analysts are convinced that the present rate of total saving in the United States is not sufficient to maximize living standards of Americans in the long run.

Deficits to Smooth Tax Rates Over Time

The final category of deficit policy views the appropriate size of the deficit in terms of the contribution that deficits can make to minimizing the economic inefficiency (waste) associated with frequent changes in tax rates. According to public finance theory, frequent changes in tax rates are inefficient because they induce people to alter the timing of their economic activities (work, consumption, investment, and so forth) so as to reduce their tax liabilities. 24/ Consequently, the government should set the level of tax rates in light of long-run normal revenue needs, and should not alter these tax rates to avoid temporary deficits (or surpluses). In other words, deficits should be allowed to vary in order to maintain expected constancy in tax rates.

Based on this view of efficient tax policy, the tax-smoothing size of the real federal deficit would be determined by the state of the economy and by the amount of abnormal real federal spending. The tax-smoothing size of the nominal deficit would depend on these same factors and on the rate of inflation.

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24. For a discussion of this theory, see Robert J. Barro, "On the Determination of the Public Debt," *Journal of Political Economy*, vol. 87, no. 5, Part 1 (October 1979), pp 940-71. The basic idea is that the government should set tax rates so that it does not distort intertemporal decisions. If government tax policy is not intertemporally neutral, it distorts the otherwise (assumed) optimal decisions of the private sector. Also, frequent changes in tax rates can add disproportionately to the cost of revenue collection. The analysis cited above depends crucially on the assumption that private saving rises to offset government dissaving because individuals prepare for future increased taxes that would have to be imposed to service the debt. As a result of this assumption, deficits have no crowding out effect and no cyclical effect. Thus governments can focus their deficit policy solely on smoothing tax rates.

- During recessions and other periods of economic slack, federal revenues are lowered by high rates of unemployment that depress the federal tax base. The resulting (temporary) deficits, however, can be viewed as contributing to economic efficiency in that they allow the government to avoid a temporary increase in tax rates. If the government were to raise tax rates in order to stabilize revenues during such periods, the temporary increase in tax rates would induce people to shift their economic activities into periods of normal (lower) tax rates. This shifting of economic activity would be a waste of economic resources, since it would not have occurred in the absence of the change in tax rates.

- Deficits can also contribute to economic efficiency when there is an abnormally large amount of real federal spending, as in time of war when military needs must be met. If the government were to raise tax rates to finance its unusual spending requirements, it would alter the after-tax costs and returns from economic activity in one period compared to another, and thus would distort the timing of economic activity.

- Finally, given that the tax-smoothing size of the real federal deficit depends on real factors such as the degree of economic slack and the extent of unusual real federal spending, it is not affected by the rate of inflation. The tax-smoothing size of the nominal deficit, however, rises proportionally with the rate of inflation.

Deficit Reductions Required to Meet the Norms

The deficits being projected by CBO, assuming that current policies continue, are far larger than those implied by the various norms discussed above. But the differences vary considerably and, in addition, are very sensitive to changes in economic assumptions underlying the computations. In fiscal year 1988--the last year to be covered by the fiscal year 1986 budget resolution--the projected deficit would have to be reduced by $249 billion to balance the total budget and by $221 billion to eliminate the total structural deficit. In order to keep the debt-to-GNP ratio in fiscal year 1988 at the level of the preceding fiscal year, the budget deficit in 1988 would have to be reduced by $95 billion dollars from the level projected by CBO. The projected baseline deficits also appear too large to satisfy the consumption-maximizing and tax-smoothing criteria, although these are much more difficult to estimate. Economic theory alone cannot determine which target is most appropriate. But there is clearly a need for measures to reduce the deficit substantially irrespective of which one of the discussed policy norms is chosen.

EFFECTS AND TIMING OF DEFICIT REDUCING MEASURES

If deficits are reduced significantly, the country will escape the dangers of rapidly mounting federal debt described earlier in this chapter even if the economy performs worse than projected by CBO over the next six years. Some argue, however, that efforts to reduce the deficit rapidly could have a contractionary impact on the economy. This worry may gain intensity if the economy exhibits symptoms of weakness. Given the magnitude and timing of the deficit reduction being contemplated, is this worry legitimate?

Most economists believe that large reductions in the deficit are likely to have some adverse impact in the short run. 25/ The negative effects would clearly be less if deficit reductions are phased in gradually and if their impact on aggregate demand occurred when the economy was growing very rapidly, as it was, for example in, the first half of 1984. It is extremely difficult, however, to time efforts aimed at deficit reduction so that they offset the vicissitudes of the economic cycle. In practice, there is often a lag of several months between the enactment of tax or spending laws and their effects on receipts and outlays, and still another lag between changes in government outlays or receipts and resulting private spending decisions. Thus, deficit-reducing measures undertaken in mid-1985 would be unlikely to have a major direct impact on the economy until at least 1986, and the most important effects might come even later. Since the relevant time lags span a large portion of the duration of a typical business cycle, immediate signs of economic weakness might not be very relevant to the policy decision. Policy measures taken during the contraction phase of a cycle may not have an impact until the economy had already reversed direction of its own accord. These lags suggest that deficit-reducing plans should not be based on prevailing economic conditions but rather on the longer-term outlook, uncertain as it may be.

The contractionary effect of deficit reduction would be partly cushioned by other factors. Curtailment of the Treasury's borrowing needs would reduce upward pressure on interest rates and stimulate interest-sensitive domestic expenditure. According to some economic theories, such

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25. It should be noted that current fiscal policy, if it continues, will rapidly grow more expansionary over the course of the 1980s. CBO projects that the standardized budget deficit (inclusive of off-budget spending) will rise from 3.2 percent of standardized GNP in 1984 to about 5 percent in 1990. Thus, to maintain the same degree of fiscal stimulus as in 1984, the deficit would have to be smaller by $42 billion in 1985 and by $99 billion in 1990 than what CBO projects.

contractionary effects could be completely offset very quickly. The dollar would also probably depreciate, which in time would strengthen net exports. Moreover, if the economy seemed about to react adversely in the short run to a change in fiscal policy, the Federal Reserve could shift to a somewhat more expansionary monetary policy.

A credible attack on the deficit problem should also improve expectations in the financial markets and make longer-term investments more attractive. This would further offset offset any short-run adjustment costs imposed by deficit reductions.

APPENDIXES

APPENDIX A

BASELINE CONCEPTS AND ASSUMPTIONS

Baseline budget projections are designed to show what federal government revenues and spending would be in future years if current policies were continued without change. This appendix details the assumptions used in preparing the baseline projections for this volume. The first section describes the revenue baseline and identifies tax provisions that are scheduled to expire during the 1985-1990 projections period. The following two sections explain the baseline projections for budget authority and outlays.

BASELINE REVENUES

Baseline revenues are, with four exceptions, revenues generated under existing tax law. In three of these instances, revenue-raising provisions that expire under current law are assumed to be continued:

- Taxes for the Hazardous Substance Response Trust Fund (Superfund) are assumed to be extended at current rates beyond their scheduled expiration date of September 30, 1985.

- Airport and Airway Trust Fund taxes are assumed to be extended at current rates beyond December 31, 1987.

- Highway Trust Fund taxes are assumed to be continued at current rates beyond September 30, 1988.

CBO has also assumed, at the request of the House and Senate Budget Committees, that the federal civil service retirement contribution adjustment for recently hired workers is extended beyond December 31, 1985. The assumed extension of this provision causes baseline revenues to be lower than current law revenues would be. If the present temporary adjustment were, in fact, made permanent, it would not constitute a revenue loss relative to CBO's baseline.

All other tax provisions that are scheduled to expire between 1985 and 1990 are assumed to do so as specified in law. Among these expiring provisions are energy tax credit provisions as well as the temporary cigarette and telephone excise tax increases enacted in the Tax Equity and Fiscal Responsibility Act of 1982 and, in the case of the telephone tax, extended in the Deficit Reduction Act of 1984. Table A-1 lists temporary tax provisions with significant revenue effects (other than those noted above) along with their expiration dates.

OVERVIEW OF BASELINE SPENDING CONCEPTS

Baseline spending projections are designed to show what federal government budget authority and outlays would be in future years if current policies were continued without change. The basic methodology for projecting the different types of spending--direct spending programs and discretionary appropriations--is summarized in this section of the appendix. The final section discusses assumptions that differ from the basic methodology.

Federal spending can be divided essentially into two categories. A large part of federal spending is mandated by existing law (direct spending). The remainder is subject to annual review through the appropriation process.

Direct Spending

The term direct spending refers to four types of spending that are, in effect, mandatory under existing law: permanent appropriations and trust funds; appropriated entitlements; permanent revolving funds; and offsetting receipts. To affect spending in these programs, the basic substantive law usually must be changed. The baseline spending projections for these programs assume that existing law at the close of the last session of the Congress will continue unchanged, and that future spending will respond to assumed economic and population changes, in essentially the same way as in the past. When programs are jointly administered by the federal and state governments (for example, unemployment compensation and Aid to Families with Dependent Children), the projections assume that the states will set eligibility rules and benefit levels in the future in the same manner as they have in the past. Temporary provisions are assumed to expire as scheduled in law.

In some direct spending programs, the law gives the Administration some freedom of action. For example, the Administration has some discretion in setting hospital reimbursement rates in Medicare, in determining the

TABLE A-1. TAX PROVISIONS EXPIRING DURING 1985-1990 PERIOD

Provisions	Dates of Expiration
Revenue-Raising Provisions (Expiration of Provision Causes Revenues to Decline)	
Excise Taxes a/	
Cigarettes	September 30, 1985
Telephone	December 31, 1987
Post Closure Trust Fund	September 30, 1985

	1985	1986	1987	1988	1989	1990
Approximate Revenue Effect (in billions of dollars) b/	0	-2	-2	-3	-4	-4

Revenue-Losing Provisions (Expiration of Provision Causes Revenues to Increase)	
Energy Tax Expenditures	
Residential energy credits	December 31, 1985
Credit for geothermal equipment	December 31, 1985
Credit for solar and wind property	December 31, 1985
Credit for ocean thermal energy	December 31, 1985
Credit for small-scale hydroelectric facilities	December 31, 1985
Credit for biomass property	December 31, 1985
Credit for inner-city buses	December 31, 1985
Exclusion of interest on state and local bonds for small-scale hydroelectric facilities	December 31, 1985
Exclusion of interest on industrial revenue bonds for steam- and alcohol-producing facilities using solid waste	December 31, 1985
Carryover provision for the residential energy tax credit	December 31, 1987
Credit for small-scale hydroelectric facilities for which application has been docketed by the Federal Energy Regulatory Commission before January 1, 1986	December 31, 1988
Decrease in excise tax on newly discovered oil	December 31, 1988
Credit for certain long-term energy projects	December 31, 1990

(Continued)

TABLE A-1. (Continued)

Provisions	Dates of Expiration
Other Tax Expenditures c/	
Excise tax exemption for certain piggy-back trailers	July 17, 1985
Suspension of regulations relating to allocation under Section 861 of research and experimental procedures	August 1, 1985
Refunds of gasoline excise taxes on fuels used in taxicabs	September 30, 1985
Exclusion for employer-provided transportation	December 31, 1985
Credit for increasing research activities	December 31, 1985
Public utility dividend reinvestment plans	December 31, 1985
Targeted jobs tax credit	December 31, 1985
Deduction for elimination of architectural barriers	December 31, 1985
Exclusion of contribution to prepaid legal services plans	December 31, 1985
Employer educational assistance	December 31, 1985
Exemption from unemployment taxes for alien labor	December 31, 1985
Deduction for charitable contributions for nonitemizers	December 31, 1986
Exclusion of interest on state and local small-issue industrial development bonds	December 31, 1986
Five-year depreciation of rehabilitation costs on low-income housing	December 31, 1986
Credit for employee stock ownership plans (ESOPs)	December 31, 1987
Tax credit for orphan drug research	December 31, 1987
ACRS for mass transit vehicles	December 31, 1987
Exclusion of interest on qualified mortgage bonds	December 31, 1987
Mortgage credit certificates	December 31, 1987
Six-month holding period for long-term capital gains	December 31, 1987
Exclusion of interest on state and local small-issue industrial development bonds for manufacturing	December 31, 1988

(Continued)

TABLE A-1. (Continued)

	1985	1986	1987	1988	1989	1990
Approximate Revenue Effect (in billions of dollars)	0	1	5	11	13	15
Net Revenue Effect of All Expiring Provisions (in billions of dollars)	0	0	3	8	9	11

SOURCE: Congressional Budget Office.

a. The CBO baseline assumes extension of Hazardous Substance Response, Airport and Airway, and Highway Trust Fund taxes beyond 1985, 1987, and 1988, respectively. Therefore, the revenue loss from their expiration is not included here.

b. Excise tax estimates are net of offsetting income tax changes.

c. The CBO baseline assumes continuation of the federal employees retirement adjustment beyond December 31, 1985. Therefore, the revenue gain from its expiration is not shown here.

amount of loan assets sold to the Federal Financing Bank, and in scheduling the auction of leases for lands on the Outer Continental Shelf. In such cases the baseline generally assumes that the Administration will carry out its most recently announced intentions. As a result, the baseline projections are subject to revision if the Administration announces changes in its plans, as it often does in its annual budget.

Permanent Appropriations and Trust Funds. In some instances, authority to spend may be provided directly in the legislation that authorizes a program, without the need for subsequent annual appropriations. Examples of such direct spending programs include Medicare, Social Security, and interest on the public debt.

Appropriated Entitlements and Other Mandatory Appropriations. Some benefit programs, called appropriated entitlements, have their budget authority provided in annual appropriations. Examples of appropriated entitlements include Medicaid, Supplemental Security Income, Aid to Families with Dependent Children, and the veterans' compensation and pension programs. The basic legislation for these programs requires the payment of benefits to any person or government meeting the eligibility requirements. The level of spending is mandated in these cases by existing law and cannot be effectively controlled through the appropriation process.

In addition, certain appropriated accounts are treated as mandatory for projections purposes, even though they are not considered entitlements by both the House and the Senate Budget Committees. The list of mandatory items is that used in the so-called bipartisan baseline, which served as the basis for developing the 1983 budget resolution. The projections for the Food Stamp program, for example, are computed as if the program were mandatory, since the Congress has always appropriated enough money to cover all benefit payments to eligible recipients. Other programs treated as mandatory include child nutrition, unemployment trust fund outlays for training and employment services and for administrative expenses, payments to air carriers, Maritime Administration operating differential subsidies, rehabilitation services, government payments for annuitants' health benefits, payments in lieu of taxes, and certain miscellaneous trust funds. Some federal payments to Civil Service Retirement and other trust funds, while considered mandatory, are exactly offset by corresponding intragovernmental receipts and have no effect on total outlays.

Revolving Loan Funds. The federal government administers many lending programs through revolving funds. Such funds disburse loans and accept repayments of principal and interest. CBO calculates a baseline for such programs by first developing a lending level for each year of the projections. For fiscal years in which the Congress has set a lending limit, CBO uses that limit as a base for projections. If no limit has been set, CBO estimates the base-year lending level to be equal to average program experience over the past few years, adjusted for inflation. For subsequent years in which the Congress has yet to set a ceiling, CBO projects a baseline lending level by inflating the base-year level. Net budget authority and outlays are estimated using these lending levels, projected loan repayments, and established government accounting practices for revolving funds.

Offsetting Receipts. Certain receipts from the public resulting from the federal government's business-type activities and certain intragovernmental receipts are automatically credited to special receipt accounts and are treated as negative spending. They are deducted from other budget authority and outlays in computing budget totals rather than being counted as revenues. Examples of such receipts include those from premiums for Supplementary Medical Insurance, from the sale of timber in national forests, and from rents and royalties from Outer Continental Shelf (OCS) lands. In the baseline projections, the amount of these receipts is estimated on the assumption that current government policies regarding the extent of timber sales, the scope and timing of offshore leasing activities, and so forth, will be continued, and that actual receipts will respond to underlying

economic and demographic conditions, such as the prices of lumber and oil and the number of Medicare enrollees.

Annual Appropriations

The rest of federal spending is controlled by and requires annual action through the appropriation process. The fiscal year 1985 spending level assumed for these programs is that enacted by the Congress through December 1984. The 1986-1990 projections for the appropriated accounts represent a continuation of the policies and program levels embodied in the 1985 appropriation actions. Sometimes it is possible to relate these programmatic assumptions to specific Congressional decisions--for example, a production schedule for space shuttles. In these cases, the baseline figures are the projected budget authority and outlays required to achieve the specified program objectives.

For the largest number of appropriated accounts, current spending policy cannot be so clearly defined. Future budget authority for these accounts is generally assumed to stay constant in real terms--that is, to keep pace with a measure of inflation appropriate to the particular budget account. In cases where the 1985 appropriation reflects the deferral of funds from 1984, the 1985 projections base is assumed to be the 1985 program level--that is, 1985 budget authority plus the 1984 deferral.

Although statutory authority for most discretionary programs will expire during the five-year projections period, authorizations are assumed to be routinely renewed except for programs that are clearly of a one-time nature, such as temporary study commissions. The projected growth in budget authority is limited by any authorization limit that may have been set by the Congress; if the limit ceases to apply in some future year, budget authority is assumed to rise with inflation thereafter. If the base-year appropriation exceeds the authorization, the projections also ignore the authorization limit. It is further assumed that budget authority will result in outlays according to the observed historical pattern for the particular account.

SPECIAL ASSUMPTIONS FOR SPENDING

Most spending is projected using the baseline concepts and approaches described in the previous section of this appendix. This section provides

further information for those budget accounts requiring specialized assumptions or methodology. Accounts projected using the standard techniques are not discussed.

National Defense (Function 050)

The baseline projections of defense budget authority for 1986 and 1987 are the figures specified in the fiscal year 1985 budget resolution. The 1988-1990 figures are extrapolations of the budget resolution prepared for the staffs of the House and Senate Budget Committees. Outlays are estimated by CBO consistent with the assumed budget authority.

In contrast to most other appropriated programs, for which no real growth is assumed, the defense baseline reflects real increases in budget authority of about 5 percent per year. In calculating real growth for the baseline, the defense budget is broken down into several components, because inflation affects different parts of the defense budget differently. The two major components are employee pay and benefits (about one-third of defense budget authority in 1985) and purchases of goods and services (the remaining two-thirds). The inflation factor used for employee pay and benefits is the assumed rate of pay increase; in the baseline, CBO assumes that federal employee wages are increased at the same rate as those in the private economy. The inflation factors for the other defense budget components are estimates of expected price increases for various goods and services purchased by the Department of Defense. CBO's estimates for these factors are derived by projecting price increases in specific defense industries consistent with the baseline economic assumptions.

Baseline inflation rates for these two major components of defense spending and a composite rate for defense spending as a whole are shown in Table A-2. Because there is often a long lag between the obligation of defense funds and the actual production of the defense goods, different inflation rates are computed for budget authority and outlays. For those procurement accounts whose budget authority will result in outlays over many years, the inflation rate for budget authority reflects projected changes in prices over the period during which the budget authority will be spent. The outlay inflation rate, on the other hand, reflects only price changes in the current year.

As noted in Chapter III, other defense baseline assumptions are possible. The primary alternative is to increase defense budget authority just to keep pace with inflation, as is generally assumed in the baseline for non-

defense programs. CBO calculates budget authority for this projection by applying the baseline defense inflation rates to the 1985 defense budget authority. Outlays in each year are CBO estimates of spending resulting from the assumed budget authority.

International Affairs (Function 150)

Contributions to Multilateral Development Banks. The United States and other donor countries periodically enter into agreements providing additional resources for the multilateral development banks. The replenishment agreement, as it is called, can extend over a number of years, with annual appropriations as partial payments. Once signed, the agreement is treated as binding. If one year's appropriation is less than the scheduled contribution, the difference is included in subsequent budget requests until the full amount is provided. Arrearages, or the difference between the requested amount and the amount provided in the continuing resolution (Public Law 98-473), are assumed to be provided in fiscal year 1986. The projections assume that future replenishments of paid-in capital and contributions to the concessional lending windows of the regional banks will be negotiated with the same terms and conditions that are in the most recent replenish-

TABLE A-2. DEFENSE INFLATION RATES UNDER CBO BASELINE ASSUMPTIONS (By fiscal year, in percent)

Component	1985	1986	1987	1988	1989	1990
Budget Authority Inflation Rate						
Pay and Benefits	2.6	3.9	3.7	4.5	4.9	4.9
Purchases	4.0	5.0	5.2	5.2	5.1	5.1
Composite	3.6	4.6	4.7	5.0	5.0	5.0
Outlay Inflation Rate						
Pay and Benefits	2.6	3.9	3.7	4.5	4.9	4.9
Purchases	4.0	4.7	5.4	5.3	5.1	4.8
Composite	3.5	4.5	5.0	5.1	5.1	4.8

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ments, but with no real growth in funding levels. The projections assume that a new replenishment for the International Finance Corporation, African Development Fund, and the International Fund for Agricultural Development will begin in fiscal year 1986.

Public Law 480 Foreign Assistance Program. The Public Law 480 food assistance program is projected using the obligation levels contained in the continuing resolution (Public Law 98-473) as the base. Budget authority equals the new appropriations required to finance the program, and outlays equal gross disbursements less receipts credited to the account.

Department of State Security Enhancement. The security enhancement for United States missions abroad authorized by Public Law 98-533 and partially appropriated in the continuing resolution (Public Law 98-473) is treated as an extraordinary one-time program. The full $350 million authorized is contained in the baseline in 1985, but not projected for future years.

International Monetary Fund. The United States has been a member of the International Monetary Fund (IMF) since the Bretton Woods Agreement in 1944 and has participated in every increase in IMF resources since then. Quota subscriptions have been raised roughly every five years, with the most recent increase in fiscal year 1984. The baseline assumes another increase in fiscal year 1989 equal to an amount sufficient to maintain the real level of the current U.S. quota subscription. No increase in the General Arrangement to Borrow is projected. Dollar transfers with the IMF are treated by the Treasury as an exchange of international reserve assets and are not counted as net budget outlays, although they do affect the Treasury's cash position and borrowing requirements.

Guarantee Reserve Fund. In fiscal year 1981, the Congress ceased appropriating an amount equal to a portion of guaranteed foreign military credits as a reserve for problem loans. Funds appropriated as reserves in earlier years were consolidated in a revolving fund to make payments on rescheduled loans and defaults. By 1984 the fund had been reduced to a point requiring replenishment. The Administration requested appropriations sufficient to maintain a reserve of 2 percent of the contingent liability, but the Congress provided less than the requested amount. The projections assume a constant real replenishment until fiscal year 1988, when a larger appropriation will be required to meet the estimated outlays from the fund.

Special Defense Acquisition Fund. Net outlays are estimated by projecting the limits on new obligations contained in appropriation acts.

Export-Import Bank. While Export-Import Bank loans are limited in appropriation acts, the level of new loan commitments depends significantly on market forces. Actual loan commitments have been lower than program limits for the past three years and are estimated to remain below projected program limits through fiscal year 1986. Budget authority measures potential borrowing requirements resulting from bank activity. It equals direct loan obligations less direct loan cancellations, loan repayments, and bank net income, plus redemption of debt and any change in the balance of unobligated borrowing authority available to the bank. Outlays equal gross disbursements less collections.

General Science, Space, and Technology (Function 250)

National Aeronautics and Space Administration. CBO's baseline projection for the National Aeronautics and Space Administration (NASA) assumes funding for construction of four space shuttles. The baseline includes the estimated amounts needed to complete construction of the final shuttle. Because construction is nearly complete, fewer funds will be required for the shuttle in future years. All other NASA programs are projected by adjusting budget authority for inflation.

No increase in funding is assumed for construction of a manned space station, for which options-definition studies are now under way. No clear Congressional decision--for example, selection of a specific option or appropriation of construction funds--has yet been made to build a manned space station. Moreover, the uncertainty over the configuration of a possible station precludes accurate estimation of future funding requirements.

Energy (Function 270)

Tennessee Valley Authority and Bonneville Power Administration. These two accounts are funded by permanent indefinite borrowing authority subject to a cap. The baseline projection of budget authority for these accounts is an estimate of the borrowing authority required to finance their capital investments. The outlay projections are CBO's best estimate of capital spending net of receipts. All operating expenses are assumed to be covered by revenues from ratepayers.

Uranium Enrichment. The baseline projection of budget authority is the difference between receipts and operating expenses for uranium enrichment,

as estimated by CBO. The revenue estimates are based on projected sales and unit price for enriched uranium. The operating expenses are projected from the 1985 base and assume a constant level of production and other activities.

Sale of Mineral and Mineral Products. This is an offsetting receipt account, to which are credited the receipts from the sale of oil and other petroleum products from the Naval Petroleum Reserves. The estimate of receipts is based on the estimated price of oil, the rate of production from the reserves, and an estimate of receipts generated from the sale of other petroleum products. It does not include the estimated revenues from the windfall profit tax, which appear on the revenue side of the budget.

Nuclear Waste Fee. The account for nuclear waste fees represents CBO's estimate of receipts collected from a fee on nuclear-generated electricity. This fee was imposed by the Nuclear Waste Policy Act of 1982 at 0.1 cents per kilowatt hour. CBO bases its estimate on the status of plants under construction and their projected operation date. The estimate assumes that the fee remains constant through 1990.

Strategic Petroleum Reserve. Congress has created two accounts for the Strategic Petroleum Reserve: one on-budget, which funds operation and construction of the reserve; and the other off-budget, which funds oil acquisition. The baseline estimate for operation and construction reflects the 1985 appropriation adjusted annually for inflation. The off-budget baseline projection assumes acquiring 159,000 barrels of oil per day through 1985 as recommended in the Energy and Water Appropriations Act of 1985, and at a rate so as not to exceed permanent capacity for the 1986-1990 period. CBO estimates that 750 million barrels of oil will be in the reserve by the end of 1990 based on these assumptions.

Natural Resources and Environment (Function 300)

Spending in this function is projected using the general baseline concepts previously described.

Agriculture (Function 350)

Agricultural Credit Insurance Fund. The Agricultural Credit Insurance Fund is a revolving fund that makes loans to farmers and sells the resulting loan

assets to the Federal Financing Bank (FFB). Budget authority for a given year consists of an appropriation to recapitalize the fund to offset net realized losses of previous years and permanent indefinite borrowing authority to cover the current year's cash flow needs. The volume of all loans, except disaster loans, is set at the levels specified in the 1985 Agriculture Appropriations Act for 1985 and is adjusted for inflation in later years. The level of disaster loans is based on the average level of disaster loans obligated from 1979 through 1984, adjusted for inflation. All loans are assumed to be disbursed in the year of their commitment. Loan asset sales to the FFB are assumed to equal loan commitments, but 15 percent of the sales are assumed to occur in the following fiscal year.

Federal Crop Insurance Corporation. Budget authority for the Federal Crop Insurance Corporation (FCIC) fund is projected to be the amount of appropriations necessary to cover a 30 percent premium subsidy plus agents' commissions. Participation in the program is assumed to increase 1 percent a year from the base-year level. Premium income is assumed to be $6 for every $100 of liability, and indemnities are assumed to be 98 percent of premiums. Budget authority for FCIC administration and operations is projected as a percentage of premiums (65 percent in 1986, declining by 2 percent each year thereafter).

Commodity Credit Corporation Price Support Programs. The baseline outlay estimates of Commodity Credit Corporation (CCC) price support activities are a best estimate of likely expenditures, based on the terms and conditions established in the Agriculture and Food Act of 1981 (Public Law 97-98), the Reconciliation Act of 1982, the Dairy and Tobacco Adjustment Act of 1983, the Agricultural Programs Adjustment Act of 1984, and expected Administration actions in implementing the legislation. The projections assume that the Administration will implement reduced acreage programs requiring retirement of 30 percent of wheat acreage for the 1986 through 1989 crops, of which 10 percent will be paid acreage diversion; 15 percent of feed grain acreage for the 1986 through 1989 crops, of which 5 percent will be paid acreage diversion; 30 percent of cotton acreage for the 1986 and 1987 crops, of which 10 percent will be paid acreage diversion; and 25 percent of cotton acreage for the 1988 and 1989 crops, of which 5 percent will be paid acreage diversion.

Target prices are assumed to be equal to the minimum levels established by the 1984 Agricultural Programs Adjustment Act and are continued at that level through the 1989 crop year. Loan rates are assumed to be maintained at the announced 1985 levels through the 1989 crop year. The

farmer-owned reserve entry rate is assumed to be held constant at announced 1985 levels. No payment-in-kind supply reduction program is assumed for crop years after 1984. Dairy support prices are assumed to be reduced by 50 cents per hundredweight of milk on April 1, 1985, and again on July 1, 1985, and to remain at $11.60 per hundredweight thereafter. The CCC budget authority equals net obligations.

Commerce and Housing Credit (Function 370)

Rural Housing Insurance Fund. In addition to its direct loan program, the Rural Housing Insurance Fund also includes the rural rental assistance program. The baseline assumes that budget authority for this program will be sufficient to assist the same number of additional units per year as is implicit in the base-year appropriation.

Federal Housing Administration Fund. The Federal Housing Administration insures certain private mortgage loans. Budget authority is required when insurance claims exceed income in a given year. The current policy baseline for this account, therefore, is derived from estimates of insurance claims and fund income in each year, assuming continuation of the program in its current form.

Payment to the Postal Service. The payment to the United States Postal Service (USPS) has historically included three components. First, unfunded liabilities include liabilities for unfunded annual leave and workers' compensation that had accrued to the Post Office Department before it was reorganized in 1970. The unfunded annual leave has been phased out and is now zero. For projections purposes, the workers' compensation liability is held constant in real terms. Consistent with the 1981 Reconciliation Act and the 1985 appropriation, the payment of $197 million for unfunded liabilities for fiscal years 1982 through 1984 was made in 1985; beyond 1985, the normal payment level is assumed. Second, the baseline projection no longer includes an allowance for public service costs, because no funding has been appropriated since 1984, and because the 1981 Reconciliation Act did not authorize the subsidy beyond fiscal year 1984. Third, the payment for revenues forgone is the compensation for revenues lost when the Congress specifies reduced postage rates for certain classes of mailers. For fiscal year 1985, the Congress appropriated $801 million for this purpose. To date, the Congress has not adjusted the fiscal year 1985 subsidy to reflect the February 1985 rate increase. For subsequent years, the 1985 appropriation is adjusted for inflation.

Periodic Censuses and Programs. The baseline for these items is irregular because of the cyclical nature of the activities conducted by the Bureau of the Census. An adjustment is made to exclude one-time items (generally major capital expenditures) and to include future censuses required by law. The various major components are then adjusted for inflation after 1985.

Transportation (Function 400)

Federal-Aid Highways. The Surface Transportation Assistance Act of 1982 (Public Law 97-424) specifies budget authority for the Interstate highway program at $4 billion each year through fiscal year 1989, and the emergency relief program at $100 million through the projection period. Budget authority for noninterstate highway programs is provided through 1986 by Public Law 97-424 and is adjusted for inflation thereafter. In 1985 appropriation action limited obligations to $13.25 billion. The baseline assumes that obligations are held at $14.45 billion in 1986, the ceiling established by Public Law 97-424, and are inflated thereafter.

Washington Metropolitan Area Transit Authority (WMATA). The federal government's share of interest payments due on WMATA's outstanding debt issue is projected to remain constant at $51.7 million through fiscal year 1990, as authorized by Public Law 96-184. In 1985 the appropriation was slightly lower to reflect repayments by local governments for federal funds borrowed to finance construction in the 1970s.

Washington Metro. Public Law 96-184 authorized a total of $1.76 billion in federal funds for construction of the Washington metrorail system. A total of $740 million has been appropriated to date (including a $250 million appropriation in fiscal year 1985), leaving $1.02 billion to be appropriated.

Mass Transportation Capital Fund. The Surface Transportation Assistance Act of 1982 (Public Law 97-424) set aside one cent of the gasoline and diesel fuel excise tax for mass transportation purposes. The baseline projections assume the budget authority established by this law through fiscal year 1986 and adjust it for inflation thereafter. The enacted obligation ceiling for 1985 is $1.12 billion; in future years the ceiling is assumed to be equal to budget authority.

Highway Safety Grants. Budget authority for state and community highway safety grants is established by law through fiscal year 1986 and is held constant in real terms thereafter. The obligation ceiling is assumed to equal budget authority, consistent with Congressional action in 1985.

Grants-in-Aid for Airports. Budget authority for fiscal years 1985 through 1987 is established for this program in the Airport and Airway Improvement Act of 1982 (Public Law 97-248) and the Surface Transportation Assistance Act of 1982 (Public Law 97-424). For fiscal years 1988 through 1990, 1987 budget authority is adjusted for inflation. Estimates of outlays are based on obligation ceilings; the enacted 1985 obligation ceiling of $925 million is adjusted for inflation in future years.

Research, Engineering, and Development (Airport and Airway Trust Fund). Budget authority for fiscal years 1985 through 1987 is established in the Airport and Airway Improvement Act of 1982 (Public Law 97-248). For the remaining fiscal years, the 1987 budget authority is adjusted for inflation.

Operating Differential Subsidy. The Maritime Administration's operating differential subsidy program is designed to offset the higher costs of operating U.S.-flag vessels in foreign trade. The projection of budget authority represents the estimate of the federal government's liability under the contracts in force for the projection period, which depends on an assumed ship mix, trade routes, products carried, and number of ship-years.

Community and Regional Development (Function 450)

Disaster Assistance. Three major programs in this function help mitigate the effects of disasters on individuals, local governments, and businesses. Through these programs, the federal government provides flood insurance, loans to help restore damaged property, and grants to victims. Because of the unpredictability of demand for these programs, baseline projections are based on weighted historical averages, adjusted for inflation and changes in administrative regulations. (The Congress has repeatedly demonstrated its willingness to provide needed emergency funds in supplemental appropriation bills.) For disaster relief loans and grants, program levels are based on the experience of the past 15 years. For flood insurance, the average is based on the net activity of the program since 1978, when the government terminated the shared-risk approach to underwriting flood insurance. All program levels are adjusted for administrative and legislative changes as they are implemented.

The baseline for fiscal years 1985 through 1987 for the Small Business Administration (SBA) disaster loan fund assumes that farm loans will only be provided to applicants who have tried and failed to receive disaster loan

assistance from the Farmers Home Administration. This is in accordance with a provision of the Deficit Reduction Act of 1984. The SBA baseline for fiscal years 1988 through 1990 assumes that this requirement is not extended and, therefore, includes an estimate of additional SBA loans to farm disaster victims.

Education, Training, Employment, and Social Services (Function 500)

Corporation for Public Broadcasting. The Corporation for Public Broadcasting is advance funded; the fiscal year 1985 appropriations act provides funds for 1987. The baseline in 1985-1987 reflects the amount appropriated for those years. After 1987, the baseline is derived by inflating the 1987 appropriation by estimated price changes.

Health (Function 550)

No unusual assumptions apply to this function.

Medical Insurance (Function 570)

Hospital Insurance. The baseline projections for the Hospital Insurance component of Medicare are particularly uncertain after fiscal year 1986 because of uncertainties concerning future hospital reimbursements. The Social Security Amendments of 1983 instituted a prospective reimbursement system for inpatient hospital services. Under this system, patients are classified into 468 diagnosis related groups (DRG). After a three-year phase-in period, hospitals will be paid a fixed amount per DRG. For 1984 and 1985, the Social Security Amendments gave explicit guidance for the setting of the DRG rates. During these first two years of the new prospective payment system, the DRG rates were to be budget neutral relative to the previous reimbursement system. The Deficit Reduction Act of 1984 established a cap on the rate of increase of DRG rates in 1986. After 1986, the DRG rates are to be set by the Secretary of Health and Human Services, advised by an independent commission. For 1987 through 1990 the baseline assumes that DRG rates will grow by 0.25 percentage points more than the increase in the cost of a market basket of goods and services typically purchased by hospitals. In addition, hospital insurance outlays also rise with projected increases in eligible beneficiaries and hospital utilization.

Income Security (Function 600)

Federal Unemployment Benefits and Allowances. The baseline assumes that Trade Adjustment Assistance will be continued beyond its scheduled expiration date of September 30, 1985, as it has been extended in the past.

Subsidized Housing Programs. Funds appropriated annually for this account provide assistance to low-income households through various rent subsidy programs administered by the Department of Housing and Urban Development (HUD). The distribution of assistance among the various subsidy programs is derived from spending set-asides included in appropriations and authorization bills and information furnished by HUD. From this distribution, CBO estimates the number of additional units for which assistance contracts can be executed within the base-year appropriation. The baseline projection is an estimate of the funding that would be required to maintain this level of newly assisted units in each of the following five years.

Public Housing Operating Subsidies. Each year the Congress provides appropriations to subsidize the operating expenses of public housing projects. The baseline projections represent estimates of the funds required in each year to maintain the real level of assistance for each housing unit that is implicit in the base-year funding level. The year-to-year projections will grow, therefore, because of increases both in costs and in the number of units eligible for assistance. The estimated annual change in units assisted is consistent with program mix assumptions used for the subsidized housing programs.

Public Housing Loans and Other Expenses. In the past, the construction and purchase of public housing projects have been financed through the sale of tax-exempt securities to private investors. Interest and principal repayments on these securities are expenditures of HUD's subsidized housing programs. Certain provisions of the Deficit Reduction Act of 1984 have, however, made uncertain the tax-exempt status and thus the marketability of these securities. The subsidized housing account baseline includes commitment authority for 7,000 additional units each year; the necessary direct loan authority and outlays are included in the loans and expenses account. In addition, the baseline includes $13 billion in outlays in fiscal year 1985 to cover HUD redemption of notes outstanding at the beginning of the year. If the Internal Revenue Service were to issue a ruling that reinstates the tax exemption of these public housing notes, the baseline projections would have to be revised accordingly.

Refugee and Entrant Assistance. The projections for cash and medical assistance to refugees are based on the number of refugees recently entering the United States. These costs are projected to decrease because of a decline in the number of refugees entering the country. The other programs of refugee assistance are held constant in real terms.

Social Security (Function 650)

This function comprises the budgetary accounts relating to Social Security cash benefits--Old-Age and Survivors Insurance, Disability Insurance, and various intragovernmental transactions--as contained in the fiscal years 1984 and 1985 budget resolutions. The Administration places Social Security cash benefits in function 570.

Veterans' Benefits and Services (Function 700)

Veterans' Compensation. The veterans' and survivors' compensation program is not indexed for inflation by law, but benefit levels have historically been adjusted through annual legislation to cover increases in the cost of living. Prior to 1983, cost-of-living adjustments (COLAs) were usually effective on October 1 and equal to the percentage increase in Social Security and veterans' pensions. The compensation COLA for fiscal year 1985, however, was effective in December 1984. While this effective date was the same as those for the Social Security and veterans' pension COLAs, compensation rates were increased 3.2 percent, whereas Social Security and veterans' pension rates were raised by 3.5 percent. The CBO baseline assumes that future compensation increases will be enacted at the same percentage rate as Social Security and veterans' pensions and will be effective on December 1 of each year. The baseline does not include a catch-up increase to resolve the disparity in the rates of the 1985 COLAs.

Veterans' Readjustment Benefits. These programs are not indexed by law and receive legislated increases in benefit levels only sporadically. Because the timing and amount of future legislated increases cannot be predicted with any degree of confidence, the baseline for these accounts assumes no change in the current benefit rates.

Loan Guaranty Revolving Fund. This entitlement program guarantees loans made by private lenders to veterans who meet the financial qualifications. The baseline outlays for the fund reflect the net default costs resulting from foreclosures of guaranteed loans. Baseline budget authority projections

represent the amounts of any appropriations estimated to be required to ensure the solvency of the fund. Under current law, an origination fee of 1 percent of the loan principal is required on new loans guaranteed for non-service-disabled veterans. Authority for this fee is scheduled to expire after September 30, 1987. The CBO baseline assumes that the authority to impose this fee will be extended throughout the projection period.

Administration of Justice (Function 750)

The accounts in this function are all projected using the general baseline assumptions described above.

General Government (Function 800)

Official Mail Costs. Congressional postage fees are paid out of this account. CBO's projection of mail costs is based on estimated usage and reflects historical patterns.

Federal Buildings Fund. This revolving fund finances the real property operations of the government. Space and services are provided to agencies by the General Services Administration (GSA), which is reimbursed by the agencies. Obligations and disbursements from the fund are subject to limitations on the availability of revenue imposed through the appropriations process. CBO's estimate of outlays is based on the sum of estimated outlays for property management and estimated receipts from the collection of standard-level user charges from agencies. By law the user charges paid by agencies to GSA are supposed to approximate commercial charges for comparable space and services. Administrative action by the Office of Management and Budget limited user charges in fiscal year 1985 to the 1984 commercial equivalent rates. The baseline projections assume that user charges in 1986 will be frozen at the current 1985 levels and will be set at estimated market levels thereafter.

General Purpose Fiscal Assistance (Function 850)

Miscellaneous Permanent Appropriations for the Forest Service and Minerals Management Service. Certain percentages of the federal government's receipts from leasing rights and logging on federal land are paid to local units of government. CBO projections for these permanent appropriations are therefore based on estimated timber and mineral receipts, which are recorded in function 300.

Excise Tax Collections for Puerto Rico. Most excise tax revenues collected by the Internal Revenue Service on rum produced in Puerto Rico are returned to the Commonwealth. CBO estimates these payments based on projections of Puerto Rican rum sales.

General Revenue Sharing. Budget authority for payments to local governments under the general revenue sharing entitlement program is limited by the authorizing legislation to $4.6 billion annually through fiscal year 1986. The CBO baseline projects budget authority in subsequent years by inflating the $4.6 billion figure beginning in 1987.

Net Interest (Function 900)

The net interest function comprises interest on the public debt, interest received by certain trust funds, and other interest. The methodology for projecting net interest costs is described in a CBO special study, *Federal Debt and Interest Costs* (September 1984).

Allowances (Function 920)

The fiscal year 1985 figures for function 920 represent the estimated budget authority and outlays that will be provided to civilian agencies in a supplemental appropriation covering the cost of the January 1985 pay raise (3.5 percent for white- and blue-collar employees and 4.0 percent for Coast Guard and other uniformed employees of civilian agencies). The effects of the January 1985 pay raise during fiscal years 1986 through 1990 are apportioned to the appropriate salary and expense accounts in the other functions of the budget. The baseline projections assume that budget authority will be increased to pay for the full cost of the January 1985 pay raise; no absorption is assumed in 1985.

The 1986-1990 baseline projections for this function contain all budget authority and outlay growth resulting from anticipated pay rate increases for employees of civilian agencies. The projections assume that all federal civilian workers--including federal judges, Members of the Congress and senior executives, and others now at the statutory pay ceiling--will receive pay rate adjustments equal to the annual rate of growth in private-sector pay and that these increases will occur in October, as under current law. CBO estimates that these increases will be 3.0 percent in October 1985, 3.8 percent in 1986, 4.7 percent in 1987, 5.0 percent in 1988, and 5.6 percent in 1989. CBO assumes that agencies will not be required to absorb any of the

cost of these adjustments, because any action regarding absorption represents a policy decision that is separate from decisions about federal pay rates.

The baseline projections further assume the expiration of Section 301 (b) of the Omnibus Budget Reconciliation Act of 1982, which changed the determination of hourly rates for General Schedule employees. Under the 1982 law--in effect for fiscal years 1984 and 1985--an employee's hourly rate of pay is derived by dividing the annual rate of pay by 2,087 hours. Beginning in fiscal year 1986, the divisor will revert to 2,080 hours.

The methodology for estimating pay costs is described in a CBO paper, *The Budgetary Treatment of Federal Civilian Agency Pay Raises: A Technical Analysis* (January 1983).

Undistributed Offsetting Receipts (Function 950)

Employer's Share, Employee Retirement. The government's contribution to federal employee retirement plans is assumed to grow in proportion to assumed pay rate increases and scheduled increases in contribution rates. This includes federal agencies' share of the Social Security tax, for which new federal workers and their employing agencies became liable on January 1, 1984.

Outer Continental Shelf Receipts. Outer Continental Shelf (OCS) receipts consist of cash bonus bids from lease sales, annual rental payments, royalties on oil and gas revenue, and payments to the federal government resulting from the release of disputed OCS receipts from escrow accounts. Bonus receipts for fiscal years 1985 and 1986 are estimated on a sale-by-sale basis, reflecting bonus bids on previous offerings in the area in which a sale will occur, and the Minerals Management Service (MMS) estimate of oil and gas reserves in the sale area. Bonus receipts for subsequent years are assumed to remain at the 1986 level. Escrow releases are dependent upon resolution of various court cases; timing of those releases is estimated based on information from the Solicitor's Office of the Department of the Interior and from the states concerned. Royalty receipt estimates are based on MMS projections of oil production and CBO projections of gas production and oil and gas prices.

APPENDIX B

BASELINE SPENDING AND CREDIT PROJECTIONS BY FUNCTION AND MAJOR PROGRAM CATEGORY

The outlay categories used in the body of this report are designed to reflect the way in which the Congress has approached spending decisions in recent budget resolutions. This appendix classifies federal spending and credit in terms of two further analytical structures: budget function and major program category.

Budget Functions

One important way to classify federal spending is by the major budget functions served by federal programs. The Congressional Budget Act of 1974 requires the Congress to include estimates of budget authority and outlays for each major function in its annual budget resolutions. The functional classification is a means of presenting spending estimates according to the national needs that federal programs are intended to serve, regardless of the methods used to carry out the activities. National needs are grouped in 18 broad areas, ranging from national defense, international affairs, and energy programs to agriculture, transportation, health, and general government programs. Three additional categories--net interest, allowances, and undistributed offsetting receipts--do not address specific national needs but are included to cover the entire budget. In contrast to the budget resolutions for fiscal years 1984 and 1985, the Administration includes both Medicare and Social Security cash benefits in a single budget function, as it believes is required by the Social Security Amendments of 1983.

Major Program Category

The second way to classify federal spending is by major program category. This approach focuses more on the method of carrying out an activity than does the functional classification. The major program categories are national defense, benefit payments to individuals, grants to state and local

governments (other than for benefit payments), net interest, and other federal operations. The national defense and net interest categories are identical to the budget functions of the same name.

The benefit payments category includes both direct payments from the federal government to individuals (such as Social Security benefits) and indirect payments through state and local governments (such as Medicaid and assistance payments). The bulk of benefit payments for individuals are classified in the health, medical insurance, income security, social security, and veterans' benefits and services functions (functions 550, 570, 600, 650, and 700).

Grants to state and local governments (other than for benefit payments) include grants for the construction of wastewater treatment plants, grants for highway construction, community development grants, aid for elementary and secondary education, employment and training assistance, and general revenue sharing. Most grants are found in functions 300, 400, 450, 500, and 850.

The other federal operations category includes the remainder of the budget. The major spending components are foreign aid, general science research and space technology, domestic energy programs, farm price supports, housing credit activities, and other day-to-day operations of the federal government. It also includes most offsetting receipts. Spending for other federal operations appears in all budget functions except national defense and net interest.

Tables B-1, B-2, and B-3 present the baseline projections of budget authority, outlays, and credit by function. Table B-4 shows the distribution of baseline outlays by major program category.

TABLE B-1. CBO BASELINE BUDGET AUTHORITY PROJECTIONS BY FUNCTION (By fiscal year, in billions of dollars)

Function	1985 Base	Projections				
		1986	1987	1988	1989	1990
National Defense (050)	293	325	360	398	439	485
International Affairs (150)	21	23	24	25	29	26
General Science, Space, and Technology (250)	9	9	9	10	10	11
Energy (270)	-2	4	4	4	4	4
Natural Resources and Environment (300)	12	13	13	14	14	15
Agriculture (350)	20	16	19	18	17	17
Commerce and Housing Credit (370)	6	6	6	6	7	8
Transportation (400)	29	30	31	32	33	34
Community and Regional Development (450)	7	7	8	8	9	9
Education, Training, Employment, and Social Services (500)	32	33	34	35	37	39
Health (550)	33	37	39	42	45	49
Medical Insurance (570)	70	80	94	97	104	114
Income Security (600)	156	159	168	177	184	192
Social Security (650)	197	208	218	255	282	313
Veterans' Benefits and Services (700)	27	28	28	29	29	29
Administration of Justice (750)	7	7	7	7	7	7
General Government (800)	6	6	6	6	7	7
General Purpose Fiscal Assistance (850)	6	6	7	7	7	8
Net Interest (900)	130	146	163	186	206	230
Allowances (920)	1	1	2	4	6	8
Undistributed Offsetting Receipts (950)	-33	-36	-39	-42	-43	-46
Total	1,028	1,106	1,203	1,318	1,432	1,557
Memorandum:						
Social Security and Medicare	267	288	313	352	386	426

TABLE B-2. CBO BASELINE OUTLAY PROJECTIONS BY FUNCTION
(By fiscal year, in billions of dollars)

Function	1985 Base	Projections				
		1986	1987	1988	1989	1990
National Defense (050)	252	282	313	347	384	424
International Affairs (150)	17	17	18	19	20	20
General Science, Space, and Technology (250)	9	9	9	10	10	10
Energy (270)	3	4	3	4	4	4
Natural Resources and Environment (300)	12	13	13	13	13	14
Agriculture (350)	21	16	19	18	17	17
Commerce and Housing Credit (370)	3	3	2	2	2	2
Transportation (400)	26	28	30	31	32	33
Community and Regional Development (450)	8	8	8	8	8	9
Education, Training, Employment, and Social Services (500)	30	31	33	34	36	37
Health (550)	34	36	39	42	45	48
Medical Insurance (570)	65	71	79	89	100	112
Income Security (600)	126	121	127	134	140	145
Social Security (650)	189	200	214	228	243	259
Veterans' Benefits and Services (700)	26	27	27	28	29	29
Administration of Justice (750)	6	7	7	7	7	7
General Government (800)	6	6	6	6	6	7
General Purpose Fiscal Assistance (850)	6	6	7	7	7	8
Net Interest (900)	130	146	163	186	206	230
Allowances (920)	1	1	2	4	6	8
Undistributed Offsetting Receipts (950)	-33	-36	-39	-42	-43	-46
On-Budget Outlays	938	995	1,080	1,174	1,270	1,378
Off-Budget Outlays	11	9	8	8	6	6
Total Outlays	949	1,003	1,088	1,183	1,276	1,384
Memorandum:						
Social Security and Medicare	254	271	293	317	343	371

TABLE B-3. CBO BASELINE CREDIT PROJECTIONS BY BUDGET FUNCTION
(By fiscal year, in billions of dollars)

Function		1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
International Affairs (150)	DL	9	10	11	12	12	13	13
	PG	7	10	11	11	12	12	13
General Science, Space, and Technology (250)	DL	a/	0	0	0	0	0	0
	PG	0	0	0	0	0	0	0
Energy (270)	DL	2	3	3	3	3	3	3
	PG	a/	a/	a/	a/	a/	a/	a/
Natural Resources and Environment (300)	DL	a/	a/	a/	a/	a/	a/	a/
	PG	0	0	0	0	0	0	0
Agriculture (350)	DL	9	13	15	14	13	14	13
	PG	5	5	4	4	4	4	4
Commerce and Housing Credit (370)	DL	12	6	6	6	7	7	7
	PG	20	26	26	27	28	30	31
Transportation (400)	DL	1	a/	a/	a/	a/	a/	a/
	PG	a/	a/	a/	a/	a/	a/	a/
Community and Regional Development (450)	DL	1	2	2	2	2	2	2
	PG	a/	a/	a/	a/	a/	a/	a/
Education, Training, Employment, and Social Services (500)	DL	1	1	1	1	1	1	1
	PG	8	9	9	9	10	10	10
Health (550)	DL	a/	a/	a/	a/	a/	a/	a/
	PG	a/	a/	a/	a/	a/	a/	a/
Income Security (600)	DL	1	14	1	1	1	1	2
	PG	14	0	0	0	0	0	0
Veterans' Benefits and Services (700)	DL	1	1	1	1	1	1	1
	PG	16	17	18	19	21	24	25
General Purpose Fiscal Assistance (850)	DL	a/	0	0	0	0	0	0
	PG	0	0	0	0	0	0	0
Total	DL	39	50	40	41	42	42	43
	PG	71	67	68	71	75	80	84

NOTES: DL = Net Direct Loan Obligations
PG = Primary Loan Guarantee Commitments

a. Less than $500 million.

TABLE B-4. CBO BASELINE OUTLAY PROJECTIONS BY MAJOR PROGRAM CATEGORY (By fiscal year)

Category	1984 Actual	1985 Base	Projections 1986	1987	1988	1989	1990
			In Billions of Dollars				
National Defense	227	252	282	313	347	384	424
Benefit Payments for Individuals							
Direct	360	381	405	433	464	496	529
Indirect	47	50	53	56	60	64	68
Subtotal	407	432	458	490	525	559	597
Grants to State and Local Governments	51	55	57	59	61	63	66
Net Interest	111	130	146	163	186	206	230
Other							
Other federal operations	78	102	88	94	98	101	107
Undistributed offsetting receipts	-32	-33	-36	-39	-42	-43	-46
Subtotal	46	70	52	55	56	58	61
Total On-Budget Outlays	842	938	995	1,080	1,174	1,270	1,378
Off-Budget Outlays	10	11	9	8	8	6	6
Total Outlays	852	949	1,003	1,088	1,183	1,276	1,384
Memorandum:							
Total Grants to State and Local Governments	98	105	110	116	121	127	134
			As a Percent of GNP				
National Defense	6.4	6.5	6.8	7.0	7.2	7.4	7.6
Benefit Payments for Individuals							
Direct	10.0	9.9	9.7	9.7	9.6	9.5	9.4
Indirect 1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2
Subtotal	11.4	11.2	11.0	10.9	10.9	10.8	10.6
Grants to State and Local Governments	1.4	1.4	1.4	1.3	1.3	1.2	1.2
Net Interest 3.1	3.4	3.5	3.6	3.9	3.9	4.1	
Other							
Other federal operations	2.2	2.7	2.1	2.1	2.0	1.9	1.9
Undistributed offsetting receipts	-0.9	-0.9	-0.9	-0.9	-0.9	-0.8	-0.8
Subtotal	1.3	1.8	1.2	1.2	1.2	1.1	1.1
Total On-Budget Outlays	23.5	24.3	23.9	24.1	24.3	24.4	24.6
Off-Budget Outlays	0.3	0.3	0.2	0.2	0.2	0.1	0.1
Total Outlays	23.8	24.6	24.1	24.3	24.5	24.5	24.7
Memorandum:							
Total Grants to State and Local Governments	2.7	2.7	2.6	2.6	2.5	2.4	2.4

APPENDIX C

FEDERAL RECEIPTS AND EXPENDITURES IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS

Both the unified budget and the federal sector of the national income and product accounts (NIPA) measure the receipts and expenditures of the federal government. The national income accounts measure current income and production and are the most widely used indicator of current economic activity. As a rule, the unified budget is used for budgetary analysis while the NIPA federal sector is more useful for analyzing the economic impact of federal government activity. The NIPA estimates of federal government activity differ from the unified budget estimates in four ways: timing of transactions, netting and grossing of receipts against spending, treatment of financial activities, and coverage.

Timing differences occur because the unified budget records transactions (except interest owed to the public) on a cash-paid or cash-received basis, while the NIPA federal sector may use a cash, accrual, or other basis, depending on the type of transaction. On the receipts side, the most important timing difference is the recording of corporate profit taxes in the NIPA at the time the tax liability is incurred, which may be months (or years) before the money is deposited in the Treasury. On the expenditure side, the only major timing difference is the recording of some large defense purchases in the NIPA at the time of delivery rather than at the time payment is made. Other timing differences are generally small.

Netting and grossing differences arise because the unified budget treats certain types of receipts as offsets to outlays. For example, employing-agency payments to the Civil Service Retirement Trust Fund and other federal employee benefit plans are counted as a negative outlay in the unified budget, exactly offsetting agency expenditures elsewhere in the budget. In the NIPA, this amount is added to both receipts and expenditures in order to provide a more accurate measure of personal income and outlays. Other netting and grossing adjustments in the NIPA are made for funds collected by the government in the course of business-type transactions--

such as veterans' insurance programs, timber sales, and rents and royalties arising from the Outer Continental Shelf leases.

Lending transactions that involve only the transfer of existing assets and liabilities are generally excluded from the NIPA federal sector, since they do not reflect current production of goods or services. For example, direct lending by the Small Business Administration is reflected in the unified budget but is excluded from the NIPA. Interest paid or received in the course of financial transactions, though, is reflected in the NIPA federal sector. The NIPA also records nonrecourse agricultural commodity loans as purchases of goods and services rather than loans.

Coverage differences largely reflect the exclusion of Puerto Rico, the Virgin Islands, and other territories for purposes of computing the gross national product and related data series in the NIPA. The national income and product accounts, on the other hand, include certain foreign currency transactions and spending by certain off-budget federal entities that are excluded from the unified budget.

Table C-1 shows estimates of federal-sector receipts and expenditures on a NIPA basis, consistent with the CBO baseline budget projections.

TABLE C-1. PROJECTIONS OF BASELINE REVENUES AND EXPENDITURES ON A NATIONAL INCOME AND PRODUCT ACCOUNTS BASIS (By fiscal year, in billions of dollars)

	1984 Actual	1985 Base	Projections				
			1986	1987	1988	1989	1990
Personal Tax and Nontax Receipts	306	341	370	402	441	481	521
Corporate Profits Tax Accruals	70	71	92	107	115	121	129
Indirect Business Tax and Nontax Accruals	55	55	54	57	57	56	57
Contributions for Social Insurance	256	288	310	329	362	389	421
Total Receipts	688	756	826	895	975	1,047	1,128
Purchases of Goods and Services							
Defense	215	237	266	297	330	366	405
Nondefense	68	84	85	88	93	98	104
Transfer Payments	350	368	391	419	449	479	512
Grants-in-Aid to State and Local Governments	91	99	104	109	114	120	126
Net Interest Paid	111	129	146	165	188	206	230
Subsidies less Current Surplus of Government Enterprises	25	16	19	20	21	21	23
Total Expenditures	860	933	1,010	1,098	1,196	1,290	1,399
Deficit	172	177	184	204	221	243	271

APPENDIX D

CHANGES IN BUDGETARY POLICIES SINCE JANUARY 1981

The tables in this appendix show the estimated budgetary effects of the changes in taxing and spending policies that have taken place since January 1981. For the reasons stated below, these estimates are subject to much more uncertainty than the usual budget estimates. They should, therefore, be viewed as illustrative of the direction and magnitude of recent policy changes.

Three major factors contribute to the uncertainty of the estimates in this appendix. First, while policies have changed, so has the economy. Separating the effects of changes in budgetary policies from changes in the economy requires making the unrealistic assumption that budgetary changes have no effect on macroeconomic variables--either directly or indirectly through, say, their influence on individual behavior, state and local budgets, or monetary policy. Moreover, the pricing of policy changes varies with the economic and technical assumptions used. In February 1982, for example, CBO estimated that the Economic Recovery Tax Act of 1981 (ERTA) would reduce revenues by amounts growing from $39 billion in fiscal year 1982 to $294 billion in fiscal year 1987. Based on current economic assumptions, CBO now estimates the 1987 revenue loss stemming from ERTA at $244 billion--about 80 percent of the earlier figure. Estimates for other economically sensitive programs, such as unemployment insurance, will also vary substantially, depending on the economic assumptions.

Second, measuring the effects of specific policy changes on budget totals also depends on assumptions about the behavioral response to those changes by institutions and people. In the past couple of years, for example, the growth of Medicare spending has fallen short of most projections. Simultaneously, the federal government has instituted new procedures for reimbursing hospitals and physicians under Medicare. In evaluating these changes in law, CBO takes medical care utilization rates and market prices as givens. Nevertheless, it is quite possible that increasing cost-consciousness by the federal government--a major purchaser of health-care services--

has contributed to the slowing in Medicare spending indirectly, through utilization rates and prices, as well as through its direct effect on reimbursement rates.

Third, the budgetary policies of 1985 and 1981 are not always clearly defined. For revenues and mandatory spending, 1981 policy is assumed to be represented by the laws in effect on January 1, 1981. The treatment of discretionary spending is more difficult, however, since appropriations are generally made for only one year at a time. In the case of nondefense discretionary spending, the estimates reported here use the 1981 CBO baseline, adjusted for subsequent changes in the actual or projected price level, as a measure of 1981 policy. In the case of defense, 1981 policy has been approximated by a path that provides 3 percent annual real growth in budget authority over the January 1, 1981 level, while 1985 policy is based on the Congressional budget resolution for fiscal year 1985. Using this latter assumption, the increase in defense spending because of policy changes since 1981 is $35 billion in 1985 and $95 billion in 1990. If 1981 and 1985 policies were measured by assuming zero real growth over the base-year appropriations, however, the additional defense spending would be $50 billion in 1985 and $84 billion in 1990.

The tables in this appendix provide CBO estimates of deficits, revenues, and outlays based on current economic and technical assumptions, but assuming the policies of four years ago. The estimates have been prepared using the assumptions and conventions described above and with the aid of CBO cost estimates for legislation enacted since January 1981. Table D-1 summarizes the analysis by comparing major budget aggregates as percents of GNP under current policies and under policies of 1981. Tables D-2, D-3, and D-4 show the results in dollar terms.

Despite the reservations noted above, the results of the analysis make good sense. On the spending side, a few major conclusions emerge. Under 1981 policies, defense spending (assuming 3 percent real growth) would have roughly kept pace with increases in GNP through fiscal year 1990. Spending for nondefense programs would have fallen from 16.3 percent of GNP in 1982 to 14.4 percent of GNP in 1990. Subsequent policy changes have added money to defense while cutting nondefense programs. From 1982 through 1988, the reductions in nondefense spending more than offset the increases in defense. By 1989 and 1990, the defense increases and nondefense cuts are roughly offsetting. But because of higher deficits, net interest costs and total outlays are projected to be substantially higher under 1985 policy assumptions than they would have been under 1981 policies.

Revenues would have grown sharply as a percent of GNP if 1981 policies had remained unchanged. The revenue-to-GNP ratio, already at an all-time high of 20.8 percent of GNP in 1981, would have reached 23.5 percent in 1990, compared with 19.4 percent in the current baseline. It is unlikely that such a high level of revenues would have eventuated even in the absence of ERTA; during the 1970s, the Congress periodically offset some of the effects of inflation by enacting tax cuts. Nevertheless, under 1981 policies, the budget deficit would have been on a downward path, while the tax burden would have been rising.

Essentially the same conclusions could be drawn from comparing the current baseline projections for 1990 with the actual budget figures for 1981 as percents of GNP. From 1981 through 1990, defense spending is projected to rise from 5.5 percent to 7.6 percent of GNP, while nondefense spending declines from 14.9 percent to 12.9 percent. Total budget outlays grow from 22.8 percent to 24.6 percent of GNP, paralleling the rise in interest costs. Revenues are now projected to total 19.4 percent of GNP in 1990, as compared to 20.8 percent in 1981, while the projected unified budget deficit grows from 2.0 percent to 5.2 percent of gross national product.

TABLE D-1. CBO BUDGET PROJECTIONS UNDER 1985 AND 1981 POLICIES
(By fiscal year, as a percent of GNP)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Under 1985 Policies									
National Defense	6.1	6.5	6.4	6.5	6.8	7.0	7.2	7.4	7.6
Nondefense Programs	15.0	15.4	14.1	14.4	13.6	13.5	13.3	13.1	12.9
Net Interest	2.8	2.8	3.1	3.4	3.5	3.6	3.9	3.9	4.1
Unified Budget Outlays	23.9	24.7	23.5	24.3	23.9	24.1	24.3	24.4	24.6
Revenues	20.3	18.6	18.6	19.1	19.0	19.1	19.3	19.3	19.4
Deficit (-) or Surplus	-3.6	-6.1	-4.9	-5.3	-5.0	-5.0	-5.0	-5.1	-5.2
Under 1981 Policies									
National Defense	6.0	6.0	5.7	5.6	5.8	5.8	5.8	5.9	5.9
Nondefense Programs	16.3	16.9	15.4	15.4	15.1	15.0	14.8	14.6	14.4
Net Interest	2.8	2.7	2.9	2.9	2.7	2.5	2.4	2.2	1.9
Unified Budget Outlays	25.1	25.6	24.0	23.9	23.6	23.3	23.0	22.7	22.3
Revenues	21.6	21.0	21.4	22.0	22.1	22.4	22.7	22.9	23.5
Deficit (-) or Surplus	-3.5	-4.7	-2.6	-1.9	-1.5	-0.9	-0.4	0.2	1.2

TABLE D-2. EFFECT ON UNIFIED BUDGET DEFICITS OF POLICY CHANGES SINCE 1981 (By fiscal year, in billions of dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Deficit (-) or Surplus Under Policies in Effect January 1, 1981	-106	-151	-95	-74	-64	-42	-17	11	68
Legislative Changes									
Tax reductions	-41	-75	-99	-111	-130	-149	-162	-186	-228
Defense spending increases	-3	-16	-23	-35	-41	-53	-65	-79	-95
Nondefense spending cuts	40	48	50	38	63	69	73	82	88
Effect of legislative actions on interest costs	a/	-3	-10	-21	-35	-50	-69	-93	-123
Total changes	-5	-45	-81	-129	-143	-183	-223	-276	-359
Deficit Under Policies in Effect January 1, 1985 -111	-195	-175	-203	-206	-225	-240	-266	-290	
MEMORANDA:									
January 1981 Baseline Deficit (-) or Surplus b/	-30	18	76	138	209				
Technical and Economic Differences Between Current Estimate of Deficit Under 1981 Policies and 1981 Baseline	-76	-168	-171	-212	-273				

SOURCE: Congressional Budget Office.

a. Less than $500 million.
b. For 1981 baseline, see Congressional Budget Office, *Baseline Budget Projections: Fiscal Years 1982-1986* (July 1981).

TABLE D-3. EFFECT ON REVENUES OF POLICY CHANGES SINCE 1981
(By fiscal year, in billions of dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Revenues Under Policies in Effect January 1, 1981 659	676	765	846	919	1,004	1,096	1,191	1,316	
Legislative Changes									
Economic Recovery Tax Act of 1981	-42	-93	-141	-169	-208	-244	-270	-299	-335
Tax Equity and Fiscal Responsibility Act of 1982	a/	16	34	37	48	58	58	54	53
Surface Transportation Assistance Act of 1982	--	1	4	4	5	5	5	5	5
Social Security Amendments of 1983	--	--	6	9	9	11	23	29	21
Repeal of withholding of tax from interest and dividends	--	a/	-3	-2	-2	-2	-2	-2	-2
Deficit Reduction Act of 1984	--	--	1	9	16	22	24	26	30
Other	1	1	1	1	2	1	1	1	a/
Total changes	-41	-75	-99	-111	-130	-149	-162	-186	-228
Revenues Under Policies in Effect January 1, 1985	618	601	666	735	788	855	934	1,005	1,088
MEMORANDA:									
January 1981 Baseline Revenues b/	709	810	920	1,033	1,159				
Technical and Economic Differences Between Current Estimate of Revenues Under 1981 Policies and 1981 Baseline	-50	-134	-155	-187	-240				

SOURCE: Congressional Budget Office.

a. Less than $500 million.
b. For 1981 baseline, see Congressional Budget Office, *Baseline Budget Projections: Fiscal Years 1982-1986* (July 1981).

TABLE D-4. EFFECT ON UNIFIED BUDGET OUTLAYS OF POLICY CHANGES SINCE 1981 (By fiscal year, in billions of dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Outlays Under Policies in Effect January 1, 1981	764	826	860	920	982	1,047	1,113	1,180	1,248
Legislative Changes									
National defense	3	16	23	35	41	53	65	79	95
Nondefense discretionary spending	-29	-28	-23	-16	-23	-24	-25	-26	-27
Entitlements and other mandatory spending a/	-11	-18	-24	-18	-37	-41	-47	-52	-56
Net interest	--	-1	-2	-2	-1	-1	2	b/	-1
Offsetting receipts	--	-1	-2	-2	-2	-3	-3	-3	-3
Effect of legislative actions on interest costs	b/	3	10	21	35	50	69	92	123
Total changes	-36	-30	-18	18	12	34	61	90	130
Outlays Under Policies in Effect January 1, 1985	728	796	842	938	995	1,080	1,174	1,270	1,378
MEMORANDA:									
January 1981 Baseline Outlays c/	739	792	843	895	950				
Technical and Economic Difference Between Current Estimate of Outlays Under 1981 Policies and 1981 Baseline	25	34	17	25	32				

SOURCE: Congressional Budget Office.

a. Includes one-time purchase of low-income housing notes in 1984 and 1985.
b. Less than $500 million.
c. For 1981 baseline, see Congressional Budget Office, *Baseline Budget Projections: Fiscal Years 1982-1986* (July 1981).

APPENDIX E

HISTORICAL BUDGET DATA

Comparing projected levels of revenues, outlays, and debt to historical levels can provide a context for examining changes in budget policy. Tables E-1 through E-8 show summary budget data for both CBO's baseline projections for fiscal years 1985 through 1990 as well as actual data for 1962 through 1984. The tables present the data both in nominal dollars and as a percent of GNP.

Tables E-1 and E-2 show total revenues, unified and off-budget outlays, surpluses and deficits, and debt held by the public. **Off-budget outlays** are made by agencies that have been excluded from the unified budget. The major components of off-budget outlays are spending for the Strategic Petroleum Reserve, the Postal Service deficit or surplus, and net lending by the Federal Financing Bank. **Debt held by the public** is different from the gross federal debt in that it excludes debt held by federal government accounts, which is generated mainly by trust fund surpluses. Increases in debt held by the public, on the other hand, are caused largely by federal deficits.

The major federal revenue sources are presented in Tables E-3 and E-4. These sources are individual and corporate income taxes, social insurance taxes and contributions, excise taxes, estate and gift taxes, customs duties and miscellaneous receipts. **Social insurance taxes and contributions** include employer and employee taxes and contributions for Social Security, Medicare, railroad retirement, unemployment insurance, and pension contributions by federal employees. **Miscellaneous receipts** consist mainly of transfers of earnings by the Federal Reserve system.

Tables E-5 and E-6 show outlays for major spending categories: national defense, net interest, nondefense discretionary spending, offsetting receipts, entitlements and other mandatories, and off-budget outlays. National defense and net interest are identical to the budget functions with the same titles. The national defense historical data have been adjusted to

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reflect military retirement accruals, and are consistent with the definition of national defense for the baseline projections.

Nondefense discretionary spending consists of all programs, excluding defense and entitlements, controlled through the appropriations process. Examples of nondefense discretionary spending include most direct federal spending for general government, justice, foreign economic and military support, science, and natural resources. Federal grants-in-aid to state and local governments for transportation, education, housing assistance, and community development are also considered to be discretionary.

Offsetting receipts include the federal government's contribution towards employee retirement, fees and charges such as Medicare premiums, and receipts from the use of federally controlled land and off-shore territory. The bulk of these receipts from the use of federal property are rents and royalties from oil, gas, and other mineral development and proceeds from timber and power sales.

Entitlements and other mandatories are programs for which spending is governed by a law making all who meet their requirements eligible to receive payments. Additional detail on entitlement spending is provided in Tables E-7 and E-8. Many entitlement programs require that the recipients have incomes below a certain specified level. These means-tested entitlements include Medicaid, food stamps, the assistance payments program, and supplemental security income.

Most entitlement programs are not means-tested. These include retirement and disability programs such as Social Security, Medicare, federal employee pensions, railroad retirement, and payments to disabled coal miners.

Other non-means-tested programs are unemployment insurance, farm price supports, general revenue sharing, revolving funds, and a large number of smaller trust funds.

TABLE E-1. REVENUES, OUTLAYS, DEFICITS, AND DEBT HELD BY THE PUBLIC, 1962-1990 (By fiscal year, in billions of dollars)

Fiscal Year	Revenues	Unified Budget Outlays	Unified Surplus or Deficit (-)	Off-Budget Outlays	Total Surplus or Deficit (-)	Debt Held by the Public
1962	99.7	106.8	-7.1	--	-7.1	248.4
1963	106.6	111.3	-4.8	--	-4.8	254.5
1964	112.7	118.6	-5.9	--	-5.9	257.6
1965	116.8	118.4	-1.6	--	-1.6	261.6
1966	130.9	134.7	-3.8	--	-3.8	264.7
1967	148.9	157.6	-8.7	--	-8.7	267.5
1968	153.0	178.1	-25.2	--	-25.2	290.6
1969	186.9	183.6	3.2	--	3.2	279.5
1970	192.8	195.7	-2.8	--	-2.8	284.9
1971	187.1	210.2	-23.0	--	-23.0	304.3
1972	207.3	230.7	-23.4	--	-23.4	323.8
1973	230.8	245.6	-14.8	0.1	-14.9	343.0
1974	263.2	267.9	-4.7	1.4	-6.1	346.1
1975	279.1	324.2	-45.2	8.1	-53.2	396.9
1976	298.1	364.5	-66.4	7.3	-73.7	480.3
1977	355.6	400.5	-44.9	8.7	-53.6	551.8
1978	399.6	448.4	-48.8	10.4	-59.2	610.9
1979	463.3	491.0	-27.7	12.5	-40.2	644.6
1980	517.1	576.7	-59.6	14.2	-73.8	715.1
1981	599.3	657.2	-57.9	21.0	-78.9	794.4
1982	617.8	728.4	-110.6	17.3	-127.9	929.4
1983	600.6	796.0	-195.4	12.4	-207.8	1,141.8
1984	666.5	841.8	-175.3	10.0	-185.3	1,312.6
1985P	735	938	-203	11	-214	1,526
1986P	788	995	-206	9	-215	1,740
1987P	855	1,080	-225	8	-233	1,972
1988P	934	1,174	-240	8	-249	2,220
1989P	1,005	1,270	-266	6	-272	2,490
1990P	1,088	1,378	-290	6	-296	2,786

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

TABLE E-2. REVENUES, OUTLAYS, DEFICITS, AND DEBT HELD BY THE PUBLIC, 1962-1990 (By fiscal year, as a percent of GNP)

Fiscal Year	Revenues	Unified Budget Outlays	Unified Surplus or Deficit (-)	Off-Budget Outlays	Total Surplus or Deficit (-)	Debt Held by the Public
1962	18.2	19.5	-1.3	--	-1.3	45.4
1963	18.4	19.2	-0.8	--	-0.8	43.9
1964	18.2	19.2	-1.0	--	-1.0	41.6
1965	17.7	17.9	-0.2	--	-0.2	39.6
1966	18.0	18.6	-0.5	--	-0.5	36.5
1967	19.2	20.3	-1.1	--	-1.1	34.5
1968	18.3	21.3	-3.0	--	-3.0	34.8
1969	20.5	20.2	0.4	--	0.4	30.7
1970	19.9	20.2	-0.3	--	-0.3	29.4
1971	18.1	20.4	-2.2	--	-2.2	29.5
1972	18.4	20.5	-2.1	--	-2.1	28.7
1973	18.4	19.6	-1.2	a/	-1.2	27.3
1974	19.1	19.4	-0.3	0.1	-0.4	25.0
1975	18.9	21.9	-3.0	0.5	-3.6	26.8
1976	18.1	22.2	-4.0	0.4	-4.5	29.2
1977	19.1	21.5	-2.4	0.5	-2.9	29.6
1978	19.1	21.4	-2.3	0.5	-2.8	29.2
1979	19.6	20.8	-1.2	0.5	-1.7	27.3
1980	20.1	22.4	-2.3	0.6	-2.9	27.8
1981	20.8	22.8	-2.0	0.7	-2.7	27.5
1982	20.3	23.9	-3.6	0.6	-4.2	30.5
1983	18.6	24.7	-6.1	0.4	-6.4	35.4
1984	18.6	23.5	-4.9	0.3	-5.2	36.7
1985P	19.1	24.3	-5.3	0.3	-5.6	39.6
1986P	19.0	23.9	-5.0	0.2	-5.2	41.8
1987P	19.1	24.1	-5.0	0.2	-5.2	44.0
1988P	19.3	24.3	-5.0	0.2	-5.1	46.0
1989P	19.3	24.4	-5.1	0.1	-5.2	47.9
1990P	19.4	24.6	-5.2	0.1	-5.3	49.7

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

a. Less than 0.05 percent of GNP.

TABLE E-3. REVENUES BY MAJOR SOURCE, 1962-1990
(By fiscal year, in billions of dollars)

Fiscal Year	Individual Income Taxes	Corporate Income Taxes	Social Insurance Taxes and Contributions	Excise Taxes	Estate and Gift Taxes	Customs Duties	Miscellaneous Receipts	Total Revenues
1962	45.6	20.5	17.0	12.5	2.0	1.1	0.8	99.7
1963	47.6	21.6	19.8	13.2	2.2	1.2	1.0	106.6
1964	48.7	23.5	22.0	13.7	2.4	1.3	1.1	112.7
1965	48.8	25.5	22.3	14.6	2.7	1.4	1.6	116.8
1966	55.4	30.1	25.6	13.1	3.1	1.8	1.9	130.9
1967	61.5	34.0	32.7	13.7	3.0	1.9	2.1	148.9
1968	68.7	28.7	33.9	14.1	3.1	2.0	2.5	153.0
1969	87.2	36.7	39.0	15.2	3.5	2.3	2.9	186.9
1970	90.4	32.8	44.4	15.7	3.6	2.4	3.4	192.8
1971	86.2	26.8	47.3	16.6	3.7	2.6	3.9	187.1
1972	94.7	32.2	52.6	15.5	5.4	3.3	3.6	207.3
1973	103.2	36.2	63.1	16.3	4.9	3.2	3.9	230.8
1974	119.0	38.6	75.1	16.8	5.0	3.3	5.4	263.2
1975	122.4	40.6	84.5	16.6	4.6	3.7	6.7	279.1
1976	131.6	41.4	90.8	17.0	5.2	4.1	8.0	298.1
1977	157.6	54.9	106.5	17.5	7.3	5.2	6.5	355.6
1978	181.0	60.0	121.0	18.4	5.3	6.6	7.4	399.6
1979	217.8	65.7	138.9	18.7	5.4	7.4	9.3	463.3
1980	244.1	64.6	157.8	24.3	6.4	7.2	12.7	517.1
1981	285.9	61.1	182.7	40.8	6.8	8.1	13.8	599.3
1982	297.7	49.2	201.5	36.3	8.0	8.9	16.2	617.8
1983	288.9	37.0	209.0	35.3	6.1	8.7	15.6	600.6
1984	298.5	56.9	239.4	37.4	6.0	11.4	17.0	666.5
1985P	333	63	265	38	6	12	18	735
1986P	361	71	284	35	5	13	18	788
1987P	393	88	301	35	5	14	19	855
1988P	432	96	333	34	5	15	19	934
1989P	471	102	358	34	5	15	20	1,005
1990P	515	107	389	34	5	16	21	1,088

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

TABLE E-4. REVENUES BY MAJOR SOURCE, 1962-1990
(By fiscal year, as a percent of GNP)

Fiscal Year	Individual Income Taxes	Corporate Income Taxes	Social Insurance Taxes and Contributions	Excise Taxes	Estate and Gift Taxes	Customs Duties	Miscellaneous Receipts	Total Revenues
1962	8.3	3.8	3.1	2.3	0.4	0.2	0.2	18.2
1963	8.2	3.7	3.4	2.3	0.4	0.2	0.2	18.4
1964	7.9	3.8	3.6	2.2	0.4	0.2	0.2	18.2
1965	7.4	3.9	3.4	2.2	0.4	0.2	0.2	17.7
1966	7.6	4.1	3.5	1.8	0.4	0.2	0.3	18.0
1967	7.9	4.4	4.2	1.8	0.4	0.2	0.3	19.2
1968	8.2	3.4	4.1	1.7	0.4	0.2	0.3	18.3
1969	9.6	4.0	4.3	1.7	0.4	0.3	0.3	20.5
1970	9.3	3.4	4.6	1.6	0.4	0.3	0.4	19.9
1971	8.4	2.6	4.6	1.6	0.4	0.3	0.4	18.1
1972	8.4	2.9	4.7	1.4	0.5	0.3	0.3	18.4
1973	8.2	2.9	5.0	1.3	0.4	0.3	0.3	18.4
1974	8.6	2.8	5.4	1.2	0.4	0.2	0.4	19.1
1975	8.3	2.7	5.7	1.1	0.3	0.2	0.5	18.9
1976	8.0	2.5	5.5	1.0	0.3	0.2	0.5	18.1
1977	8.5	2.9	5.7	0.9	0.4	0.3	0.4	19.1
1978	8.7	2.9	5.8	0.9	0.3	0.3	0.4	19.1
1979	9.2	2.8	5.9	0.8	0.2	0.3	0.4	19.6
1980	9.5	2.5	6.1	0.9	0.2	0.3	0.5	20.1
1981	9.9	2.1	6.3	1.4	0.2	0.3	0.5	20.8
1982	9.8	1.6	6.6	1.2	0.3	0.3	0.5	20.3
1983	9.0	1.1	6.5	1.1	0.2	0.3	0.5	18.6
1984	8.3	1.6	6.7	1.0	0.2	0.3	0.5	18.6
1985P	8.6	1.6	6.9	1.0	0.1	0.3	0.5	19.1
1986P	8.7	1.7	6.8	0.8	0.1	0.3	0.4	19.0
1987P	8.8	2.0	6.7	0.8	0.1	0.3	0.4	19.1
1988P	8.9	2.0	6.9	0.7	0.1	0.3	0.4	19.3
1989P	9.1	2.0	6.9	0.6	0.1	0.3	0.4	19.3
1990P	9.2	1.9	6.9	0.6	0.1	0.3	0.4	19.4

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

TABLE E-5. OUTLAYS FOR MAJOR SPENDING CATEGORIES, 1962-1990
(By fiscal year, in billions of dollars)

Fiscal Year	National Defense	Entitlements and Other Mandatories	Nondefense Discretionary Spending	Net Interest	Offsetting Receipts	Unified Budget Outlays	Off-Budget Outlays	Unified and Off-Budget Outlays
1962	52.3	31.3	23.3	6.9	-7.0	106.8	--	106.8
1963	53.4	33.7	24.6	7.7	-8.1	111.3	--	111.3
1964	54.8	35.0	28.4	8.2	-7.8	118.6	--	118.6
1965	50.6	35.3	31.8	8.6	-7.8	118.4	--	118.4
1966	58.1	38.0	37.5	9.4	-8.4	134.7	--	134.7
1967	71.4	46.2	39.9	10.3	-10.2	157.6	--	157.6
1968	81.9	53.0	42.9	11.1	-10.8	178.1	--	178.1
1969	82.5	59.5	40.1	12.7	-11.1	183.6	--	183.6
1970	81.7	67.4	43.9	14.4	-11.7	195.7	--	195.7
1971	78.9	82.1	48.6	14.8	-14.2	210.2	--	210.2
1972	79.2	95.8	54.5	15.5	-14.2	230.7	--	230.7
1973	76.7	111.8	57.9	17.3	-18.1	245.6	0.1	245.7
1974	79.3	125.3	63.1	21.4	-21.3	267.9	1.4	269.4
1975	86.5	157.3	75.7	23.2	-18.5	324.2	8.1	332.3
1976	89.6	183.9	84.0	26.7	-19.8	364.5	7.3	371.8
1977	97.2	199.3	95.7	29.9	-21.6	400.5	8.7	409.2
1978	104.5	218.9	112.5	35.4	-23.0	448.4	10.4	458.7
1979	116.3	237.2	120.9	42.6	-26.1	491.0	12.5	503.5
1980	134.0	279.9	140.6	52.5	-30.4	576.7	14.2	590.9
1981	157.5	322.7	147.5	68.7	-39.3	657.2	21.0	678.2
1982	185.3	359.1	136.2	84.9	-37.1	728.4	17.3	745.7
1983	209.9	400.3	142.2	89.8	-46.2	796.0	12.4	808.3
1984	227.4	395.6	152.9	111.1	-45.3	841.8	10.0	851.8
1985P	252	436	168	130	-48	938	11	949
1986P	282	445	174	146	-52	995	9	1,003
1987P	313	477	182	163	-56	1,080	8	1,088
1988P	347	510	191	186	-59	1,174	8	1,183
1989P	384	542	200	206	-62	1,270	6	1,276
1990P	424	577	211	230	-65	1,378	6	1,384

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

TABLE E-6. OUTLAYS FOR MAJOR SPENDING CATEGORIES, 1962-1990
(By fiscal year, as a percent of GNP)

Fiscal Year	National Defense	Entitlements and Other Mandatories	Nondefense Discretionary Spending	Net Interest	Offsetting Receipts	Unified Budget Outlays	Off-Budget Outlays	Unified and Off-Budget Outlays
1962	9.6	5.7	4.3	1.3	-1.3	19.5	--	19.5
1963	9.2	5.8	4.3	1.3	-1.4	19.2	--	19.2
1964	8.9	5.7	4.6	1.3	-1.3	19.2	--	19.2
1965	7.7	5.3	4.8	1.3	-1.2	17.9	--	17.9
1966	8.0	5.2	5.2	1.3	-1.2	18.6	--	18.6
1967	9.2	5.9	5.1	1.3	-1.3	20.3	--	20.3
1968	9.8	6.4	5.1	1.3	-1.3	21.3	--	21.3
1969	9.1	6.5	4.4	1.4	-1.2	20.2	--	20.2
1970	8.4	7.0	4.5	1.5	-1.2	20.2	--	20.2
1971	7.6	7.9	4.7	1.4	-1.4	20.4	--	20.4
1972	7.0	8.5	4.8	1.4	-1.3	20.5	--	20.5
1973	6.1	8.9	4.6	1.4	-1.4	19.6	a/	19.6
1974	5.7	9.1	4.6	1.6	-1.5	19.4	0.1	19.5
1975	5.8	10.6	5.1	1.6	-1.2	21.9	0.5	22.4
1976	5.5	11.2	5.1	1.6	-1.2	22.2	0.4	22.6
1977	5.2	10.7	5.1	1.6	-1.2	21.5	0.5	22.0
1978	5.0	10.5	5.4	1.7	-1.1	21.4	0.5	21.9
1979	4.9	10.0	5.1	1.8	-1.1	20.8	0.5	21.3
1980	5.2	10.9	5.5	2.0	-1.2	22.4	0.6	23.0
1981	5.5	11.2	5.1	2.4	-1.4	22.8	0.7	23.5
1982	6.1	11.8	4.5	2.8	-1.2	23.9	0.6	24.5
1983	6.5	12.4	4.4	2.8	-1.4	24.7	0.4	25.1
1984	6.4	11.0	4.3	3.1	-1.3	23.5	0.3	23.8
1985P	6.5	11.3	4.3	3.4	-1.2	24.3	0.3	24.6
1986P	6.8	10.7	4.2	3.5	-1.2	23.9	0.2	24.1
1987P	7.0	10.6	4.1	3.6	-1.2	24.1	0.2	24.3
1988P	7.2	10.6	3.9	3.9	-1.2	24.3	0.2	24.5
1989P	7.4	10.4	3.8	3.9	-1.2	24.4	0.1	24.5
1990P	7.6	10.3	3.8	4.1	-1.2	24.6	0.1	24.7

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

a. Less than 0.05 percent of GNP.

TABLE E-7. OUTLAYS FOR ENTITLEMENTS AND OTHER MANDATORY SPENDING, 1962-1990 (By fiscal year, in billions of dollars)

Fiscal Year	Medicaid	Other Means-Tested Programs	Social Security	Medicare	Other Retirement and Disability	Unemployment Compensation	Other Non-Means-Tested Programs	Total Entitlements and Other Mandatories
1962	0.1	4.2	14.1	--	2.6	3.8	6.4	31.3
1963	0.2	4.6	15.5	--	2.9	3.8	6.7	33.7
1964	0.2	4.8	16.3	--	3.3	3.6	6.8	35.0
1965	0.3	5.0	17.1	--	3.6	3.0	6.4	35.3
1966	0.8	5.0	20.2	0.1	4.1	2.4	5.5	38.0
1967	1.2	5.0	21.3	3.4	4.8	2.5	7.9	46.2
1968	1.8	5.7	23.0	5.3	5.7	2.4	9.1	53.0
1969	2.3	6.4	26.5	6.6	5.2	2.6	10.0	59.5
1970	2.7	7.4	29.3	7.1	6.6	3.4	10.8	67.4
1971	3.4	10.0	34.8	7.9	8.2	6.2	11.6	82.1
1972	4.6	11.7	39.0	8.8	9.5	7.1	15.0	95.8
1973	4.6	11.5	47.7	9.5	11.5	5.4	21.7	111.8
1974	5.8	13.9	54.0	11.3	13.6	6.1	20.5	125.3
1975	6.8	18.9	62.5	14.8	16.4	13.5	24.4	157.3
1976	8.6	22.2	71.5	17.8	18.6	19.5	25.8	183.9
1977	9.9	24.0	82.5	21.5	21.2	15.3	25.0	199.3
1978	10.7	25.3	91.7	24.4	23.2	11.8	31.7	218.9
1979	12.4	27.1	101.8	28.3	27.3	10.7	29.5	237.2
1980	14.0	32.6	116.1	34.2	31.5	18.0	33.4	279.9
1981	16.8	37.8	136.8	41.6	36.6	19.7	33.4	322.7
1982	17.4	38.1	152.9	49.6	39.8	23.7	37.6	359.1
1983	19.0	40.6	167.2	55.9	42.0	31.5	44.2	400.3
1984	20.1	41.6	174.5	61.5	43.4	18.4	36.2	395.6
1985P	22	43	185	69	44	17	54	436
1986P	24	44	196	76	48	17	39	445
1987P	26	46	209	85	51	17	42	477
1988P	28	49	224	95	54	17	42	510
1989P	31	50	238	107	57	18	41	542
1990P	33	51	254	119	61	18	41	577

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

TABLE E-8. OUTLAYS FOR ENTITLEMENTS AND OTHER MANDATORY SPENDING, 1962-1990 (By fiscal year, as a percent of GNP)

Fiscal Year	Medicaid	Other Means-Tested Programs	Social Security	Medicare	Other Retirement and Disability	Unemployment Compensation	Other Non-Means-Tested Programs	Total Entitlements and Other Mandatories
1962	a/	0.8	2.6	--	0.5	0.7	1.2	5.7
1963	a/	0.8	2.7	--	0.5	0.7	1.2	5.8
1964	a/	0.8	2.6	--	0.5	0.6	1.1	5.7
1965	a/	0.7	2.6	--	0.5	0.4	1.0	5.3
1966	0.1	0.7	2.8	a/	0.6	0.3	0.8	5.2
1967	0.2	0.6	2.7	0.4	0.6	0.3	1.0	5.9
1968	0.2	0.7	2.8	0.6	0.7	0.3	1.1	6.4
1969	0.3	0.7	2.9	0.7	0.6	0.3	1.1	6.5
1970	0.3	0.8	3.0	0.7	0.7	0.3	1.1	7.0
1971	0.3	1.0	3.4	0.8	0.8	0.6	1.1	7.9
1972	0.4	1.0	3.5	0.8	0.8	0.6	1.3	8.5
1973	0.4	0.9	3.8	0.8	0.9	0.4	1.7	8.9
1974	0.4	1.0	3.9	0.8	1.0	0.4	1.5	9.1
1975	0.5	1.3	4.2	1.0	1.1	0.9	1.6	10.6
1976	0.5	1.4	4.4	1.1	1.1	1.2	1.6	11.2
1977	0.5	1.3	4.4	1.2	1.1	0.8	1.3	10.7
1978	0.5	1.2	4.4	1.2	1.1	0.6	1.5	10.5
1979	0.5	1.1	4.3	1.2	1.2	0.5	1.2	10.0
1980	0.5	1.3	4.5	1.3	1.2	0.7	1.3	10.9
1981	0.6	1.3	4.7	1.4	1.3	0.7	1.2	11.2
1982	0.6	1.3	5.0	1.6	1.3	0.8	1.2	11.8
1983	0.6	1.3	5.2	1.7	1.3	1.0	1.4	12.4
1984	0.6	1.2	4.9	1.7	1.2	0.5	1.0	11.0
1985P	0.6	1.1	4.8	1.8	1.1	0.4	1.4	11.3
1986P	0.6	1.1	4.7	1.8	1.2	0.4	0.9	10.7
1987P	0.6	1.0	4.7	1.9	1.1	0.4	0.9	10.6
1988P	0.6	1.0	4.6	2.0	1.1	0.4	0.9	10.6
1989P	0.6	1.0	4.6	2.0	1.1	0.3	0.8	10.4
1990P	0.6	0.9	4.5	2.1	1.1	0.3	0.7	10.3

SOURCE: Congressional Budget Office.

NOTE: P = Projection.

a. Less than 0.05 percent of GNP.

APPENDIX F

CHANGES IN BASELINE BUDGET PROJECTIONS SINCE AUGUST 1984

This appendix briefly describes the sources of differences between CBO's current baseline budget projections and those published by CBO in August 1984.

CHANGES IN BASELINE DEFICIT PROJECTIONS

Except for the current fiscal year, CBO's new baseline deficit projections are similar to those published by CBO in August 1984 (see Table F-1). 1/The estimated total deficit for fiscal year 1985, however, has increased from $191 billion to $214 billion. The $23 billion increase is largely attributable to two factors. Updated economic assumptions add $13 billion--$18 billion in lower revenues which are partly offset by $5 billion in lower outlays, most of which result from lower interest rates. Another $12 billion is contributed to the 1985 deficit by the government purchase of federally guaranteed public housing authority notes, whose tax-exempt status was called into question by the Deficit Reduction Act of 1984 (DEFRA).

Changes in the baseline projections for fiscal years 1986 through 1989 are largely offsetting. Legislative actions and technical reestimates have tended to reduce the projected deficit, while changes in the CBO economic forecast and assumptions have tended to increase it. The net result is a slight increase in the deficit in 1986 and 1987 and a slight drop in 1988 and 1989.

The adoption in September 1984 of a new Congressional budget resolution for fiscal year 1985, which is used as a baseline for national defense, is the major legislative action affecting the projections. Using the fiscal year 1985 budget resolution instead of the 1984 resolution reduces defense

1. See Congressional Budget Office, *The Economic and Budget Outlook: An Update* (August 1984).

outlays by $3 billion in 1986 and $11 billion in 1989. Projected defense outlays have also been reduced by amounts ranging from $8 billion in 1986 to $12 billion in 1989 to reflect a pronounced slowdown in the rate of spending for procurement, operations, and research and development. Technical and legislative changes in other parts of the projections are negligible in the 1986 through 1989 period.

The major change in economic assumptions since August has been a reduction in the projected rate of inflation. (Nominal interest rates have also been reduced, leaving inflation-adjusted rates for most years virtually unchanged since August.) This decline in inflation reduces both revenues and outlays, but the drop in outlays is less than the drop in revenues for two major reasons. First, the baseline budget authority figures for defense are taken from the most recent budget resolution (extrapolated into the period from 1988 through 1989) and are not reduced to account for lower inflation. Second, the projected taxable personal income share of GNP has been lowered slightly. Altogether, changes in economic assumptions have increased the projected deficit by $14 billion in 1986 and $8 billion in 1989.

CHANGES IN BASELINE REVENUE PROJECTIONS

As mentioned above, changes in 1985-1989 baseline revenue projections since August mostly reflect revisions in the economic outlook. The updated lower GNP path leads to a lower revenue path. The projected revenue shares of GNP, however, remain close to the August shares. The small 0.1 percent reduction in 1986-1989 revenue shares of GNP is attributable to a reduction in the taxable personal income share of GNP. Technical revisions raise revenues slightly in each year. Legislation enacted since August reduces revenues by roughly $0.5 billion in each year (see Table F-2).

Changes in the Economic Outlook

The lower-than-expected real growth and the slightly milder inflation experienced in the second half of 1984 led to a reduction in assumed real growth for 1985 and an upward revision in real growth for later years. Revised unemployment rates persist at levels above the August projections. Assumed inflation has been reduced.

As a result, the nominal GNP and the taxable personal income paths have been reduced below August levels. The taxable personal income share of GNP has also been reduced. Economic profits are below the August

projections for 1985 and 1986, but higher thereafter. The profit share of GNP has been raised for later years.

Personal income and Social Security taxes (over 85 percent of social insurance taxes) have been lowered, reflecting the lower incomes and employment levels. Corporate income taxes have been lowered to reflect reduced taxable profits in the early years and raised in the out-years to reflect higher profits. Most of the other changes due to changed economic assumptions are minor reductions in taxes to reflect reduced sales, lower oil prices, and lower interest rates.

Enacted Legislation

Legislation enacted since August has had little effect on revenues. Most legislation reduces revenues by relatively small amounts. The total effect is an annual reduction in revenues of about $0.5 billion per year. The Deficit Reduction Act revenue increases, which will equal roughly 0.5 percent of GNP once fully phased in, were included in the August baseline.

Technical Revisions

Technical revisions raise revenues by amounts decreasing from $2.5 billion in 1985 to $0.1 billion in 1989. Most technical revisions have relatively minor revenue effects. However, two are significant. A portion of new investment and, therefore, of the revenue loss from the Accelerated Cost Recovery System, has been reallocated from the corporate to the noncorporate sector, based on newly available data. On average, this lowers individual income taxes by $2 billion and raises corporate taxes by $3 billion per year.

The other significant technical change is the incorporation in the baseline of an extension from 1985 through 1990 of the 1.3 percent new-employee rate of contribution to the Civil Service Retirement System. As the law now stands, this contribution would increase to 7 percent at the beginning of 1986. (This contribution would be in addition to the full Social Security contribution to be paid by these workers.) The extension of the lower rate in the baseline, which reduces social insurance receipts, is discussed in Appendix A.

TABLE F-1. CHANGES IN CBO BASELINE DEFICIT PROJECTIONS SINCE AUGUST 1984 (By fiscal year, in billions of dollars)

	1985	1986	1987	1988	1989
Total Deficit, August 1984	191	209	231	254	278
Changes Caused By:					
Legislative Action					
Revenues a/	1	b/	1	1	b/
National defense	-2	-3	-5	-7	-11
Nondefense spending	4	1	1	1	b/
Subtotal	3	-2	-3	-6	-10
Technical Reestimates					
Revenues a/	-3	-3	-2	b/	b/
National defense	-8	-8	-9	-11	-12
Nondefense spending	4	b/	b/	b/	5
Subtotal	-6	-10	-11	-11	-7
Economic Reestimates					
Revenues a/	18	24	27	30	37
Net interest	-6	-7	-8	-13	-15
Other nondefense spending	1	-3	-6	-9	-14
Subtotal	13	14	13	8	8
Low-Income Housing Notes	12	b/	b/	b/	b/
Debt Service Increase	1	3	3	3	3
Total Changes	23	6	2	-6	-6
Total Deficit, February 1985	214	215	233	249	272

a. Minus signs for revenues indicate an increase in revenues, which reduces the deficit.

b. Less than $500 million.

TABLE F-2. CHANGES IN CBO BASELINE REVENUE PROJECTIONS SINCE AUGUST 1984 (By fiscal year, in billions of dollars)

	1985	1986	1987	1988	1989
Baseline Revenues, August 1984	751	811	881	965	1,042
Changes From:					
Enacted legislation	-1	a/	-1	-1	a/
Revised economic assumptions					
Individual income and social insurance taxes	-9	-16	-25	-31	-38
Corporate income taxes	-7	-6	-1	2	2
Other	-2	-1	-1	-1	-1
Subtotal	-18	-24	-27	-30	-37
Technical reestimates					
Individual income and social insurance taxes	-2	-2	-3	-3	-4
Corporate income taxes	4	4	4	3	4
Other	a/	a/	a/	a/	a/
Subtotal	3	2	2	a/	a/
Total Changes	-16	-22	-26	-30	-37
Baseline Revenues, January 1985	735	788	855	934	1,005

a. Less than $500 million.

APPENDIX G

STEPS IN THE PHASEOUT OF REGULATION Q

Effective Date of Change	Nature of Change
June 1978	Money market certificates established with minimum denomination of $10,000, 26-week maturity and ceiling rates based on the 6-month Treasury bill rate.
November 1978	Automatic transfer service (ATS) savings account created, allowing funds to be transferred automatically from savings to checking account when needed.
June 1979	Small saver certificates established with no minimum denomination, maturity of 30 months or more and ceiling rates based on the yield on 2½-year Treasury securities, with maximums of 11.75 percent at commercial banks and 12.00 percent at thrifts.
June 2, 1980	Ceiling rates on small saver certificates relative to yield on 2½-year Treasury securities raised 50 basis points (maximums retained).
June 5, 1980	Maximum ceiling rate on money market certificates raised to the 6-month Treasury bill rate plus 25 basis points when the bill rate is above 8.75 percent. Other ceilings apply below 8.75 percent.
January 1, 1981	NOW accounts permitted nationwide. On the previous day, ceiling rates on NOW and ATS accounts set at 5.25 percent.
August 1, 1981	Caps on small saver certificate of 11.75 percent at commercial banks and 12.00 percent at thrifts eliminated. Ceiling rates fluctuate with 2½-year Treasury security yields.

October 1, 1981	Adopted rules for the All Savers Certificates specified in the Economic Recovery Act of 1981.
December 1, 1981	New category of IRA/Keogh accounts created with minimum maturity of 1½ years, no regulated interest rate ceiling and no minimum denomination.
May 1, 1982	New time deposit created with no interest rate ceiling, a required denomination of $500 (but no specified minimum) and an initial minimum maturity of 3½ years.
	New short-term deposit instrument created with a $7,500 minimum denomination, 91-day maturity and a ceiling rate tied to the 91-day Treasury bill discount rate.
	Maturity range of small saver certificate adjusted to 30-42 months.
September 1, 1982	New deposit account (7- to 31-day account) created with ceiling rate based on 91-day Treasury bill discount rate, minimum daily balance of $20,000 and either a fixed term or a required notice period of 7 to 31 days.
December 14, 1982	Money market deposit account (MMDA) created with minimum balance of not less than $2,500, no interest ceiling, no minimum maturity, up to six transfers per month (no more than three by draft), and unlimited withdrawals by mail, messenger, or in person.
January 5, 1983	Super NOW account created with same features as the MMDA, except that unlimited transfers are permitted. Interest rate ceiling eliminated and minimum denomination reduced to $2,500 on 7- to 31-day account. Minimum denomination reduced to $2,500 on 91-day accounts and money market certificates of less than $100,000.
April 1, 1983	Minimum maturity on small saver certificates reduced to 18 months.

October 1, 1983	All interest rate ceilings eliminated except those on passbook savings and regular NOW accounts. Minimum denomination of $2,500 established for time deposits with maturities of 31 days or less (below this minimum, passbook savings rates apply).
January 1, 1984	Rate differential between commercial banks and thrifts on passbook savings accounts and 7- to 31-day time deposits of less than $2,500 eliminated. All depository institutions may now pay a maximum of 5.50 percent.
January 1, 1985	Minimum denominations on MMDAs, Super NOWs, and 7- to 31-day ceiling-free time deposits will be reduced to $1,000.
January 1, 1986	Minimum denominations on MMDAs, Super NOWs, and 7- to 31-day ceiling-free time deposit will be eliminated.

SOURCE: Reprinted from Federal Reserve Bank of St. Louis, *Monthly Review*, May 1984, p. 6.

APPENDIX H

AN ANALYSIS OF CBO FORECAST ERRORS

Twice each year, CBO provides the Congress with an economic forecast. 1/ This appendix compares past forecasts with the actual outcomes in order to provide background information on the uncertainty that should be attached to the forecasts. 2/ Since CBO forecasts are available only since 1976, the empirical estimates presented here are very preliminary in nature.

Comparisons of CBO forecasts with actual data are difficult to make. CBO forecasts typically assume no change in current fiscal policies. At the time of the forecast, however, particularly in the winter period, the Administration may be considering new policies. At times these policy changes are very large and have significant short-run effects on the economy. In contrast to CBO, private forecasters generally attempt to forecast these policy changes and to assess their implications for the economy. To the extent that their forecasts of policy are more accurate than CBO's assumptions, one would expect their overall forecasts to be more accurate than CBO's. 3/

CBO also assumes that growth in the monetary aggregates will remain within the announced target ranges. The Federal Reserve, however, has not always been successful in attaining this goal. Making assumptions about monetary policy becomes even more complicated when one recognizes that

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1. The Congress has not always adopted the forecast provided by CBO, however.

2. CBO has also produced projections of economic variables over the medium term for use in calculating budget estimates over multi-year periods. These projections are not forecasts of the economy, based on assumptions about the maintenance of current policies. At times the out-year projections have been viewed as goals while at other times they have incorporated average historical growth rates. These medium-term projections are not analyzed in this Appendix.

3. In principle, analysts could correct CBO forecasts for changes in fiscal policy. In practice, however, this task is difficult. Fiscal policy multipliers are also subject to uncertainty, and thus the actual adjustments can take on a fairly wide range of values.

the relationship between growth in monetary aggregates and economic activity has been very unstable during some of the forecast periods.

Two forecasts are prepared by CBO each year: during the winter and summer. Both forecasts are for the same two-year period. In the following year, the forecast is "rolled out" by one year, and the process begins again. The analysis here focuses on either projected rates of growth or levels for each of the two forecast years, and distinguishes between forecast horizons--the span of time between when the forecast is prepared and the period for which the forecast is being made. The two sets of forecasts prepared each year provide four forecast horizons:

- Six months: the forecast of the first year prepared during the summer;
- Twelve months: the forecast of the first year prepared during the winter;
- Eighteen months: the forecast of the second year prepared during the summer;
- Twenty-four months: the forecast of the second year prepared during the winter.

Forecasts made for shorter time horizons will presumably be more accurate than those made for longer horizons, and thus lumping together all forecasts provides overestimates of the shorter-run forecast errors and underestimates of longer-run forecast errors. The sample of errors in each horizon is very small, however, thereby limiting the statistical analysis that can be performed and the conclusions that can be drawn about CBO forecasts.

For budgeting purposes, the level of the economy in the second year of the CBO forecast is most relevant, since that is the year for which the Congress is considering a new budget. For that reason, the combined two-year rates of growth are also considered for the relevant series.

CBO FORECAST ERRORS

Seven economic variables were chosen for the analysis. These variables fall into two groups. The first group consists of the percent changes in gross

national product, measured in 1972 dollars (GNP72); the implicit deflator for GNP (PGNP); gross national product, measured in current dollars (GNP); and the Consumer Price Index for urban consumers (CPIU). 4/ The second group of variables consists of average levels of the civilian unemployment rate, in percent (RUC); the 90-day Treasury bill interest rate, in percent (RTB); and the AAA-rated corporate bond interest rate, in percent (RCB).

CBO forecast errors are summarized in Tables H-1, H-2, and H-3. Table H-1 shows the mean absolute forecast errors (MAE) for the four forecast horizons, while Table H-2 shows the MAE of the average annual growth rates for the combined two-year period. Table H-3 shows the largest under- and overpredictions. 5/ For example, CBO's winter forecast of inflation (fourth quarter to fourth quarter, as measured by the GNP price deflator) erred by an average of 1.3 percentage points, without regard to sign, in the first year of the forecast, and by 2.2 percentage points in the second year. Over the combined two-year period, the MAE averaged 1.6 percentage points, at an annual rate. The largest under- and overpredictions in the first year were -2.3 and 2.8 percentage points, respectively.

The following observations can be made about the forecast errors:

- None of the chosen variables is easy to forecast. Inflation and interest rates appear to be the hardest to forecast;
- The average size and range of forecast errors increase with the length of the forecast horizon;
- Some offsets in forecasted rates of real growth and inflation occur between the first and second years of the forecast, rendering the average error smaller than the geometric average of the errors in each year; and

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4. CBO estimates of federal receipts and expenditures have been analyzed elsewhere. See, for example, *An Analysis of Congressional Budget Estimates for Fiscal Years 1980-1982*, Congressional Budget Office, June 1984.

5. Because so few observations were available, the variance and standard errors of the forecast errors were not computed. Such measures, which rely on a "squared" weighting scheme, place tremendous weight on just one very large forecast error (sometimes termed an "outlier").

- The size of the errors underscores the importance of allowing for uncertainty in budget policy deliberations.

The forecast errors are quite large, a reflection of the limitations of economic forecasting generally. Table H-4 compares the one-year horizon forecasts of CBO with results reported in a recent study of 15 other forecast services. 6/ CBO follows closely the techniques of other forecasters, and in building its own forecast, remains within the consensus of informed opinion. It is not surprising, therefore, that the forecast errors reported here fall within the range of errors experienced by other major forecasters.

The interdependence of forecast errors in CBO forecasts were examined by computing correlations between errors in one variable and those in all other variables. This was done first for each forecast horizon, revealing that the interdependence among forecast errors was roughly the same across forecast horizons. Table H-5 shows the results of combining all four forecast horizons. 7/ The following observations seem relevant:

- Errors in real GNP (GNP72) and inflation (PGNP, CPIU) are not highly correlated. Since the period over which CBO produced forecasts witnessed high and rising inflation resulting both from supply shocks (foreign oil in late 1979) and strong domestic demands (late 1978), this is not surprising;

- Errors in real GNP growth and the unemployment rate are negatively correlated. This is as expected, since CBO forecasts the relationship between these variables in a consistent fashion;

- Errors in forecasting interest rates are more closely related to errors in forecasting inflation than real growth, and errors in short- and long-term interest rates are positively correlated.

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6. Stephen K. McNees and John Ries, "The Track Record of Macroeconomic Forecasts," *New England Economic Review* (November/December 1983), pp. 5-18. The authors report forecast errors, on an annualized basis, for forecast horizons ranging from one to eight quarters. The CBO forecast errors over a one-year horizon are compared with the four quarter results of other forecasters, and the combined two-year CBO results, also based on the winter forecasts, are compared with the eight quarter results of other forecasters.

7. This consists of 34 observations. Under the assumption of independence, correlations larger than 0.34 are significant at the 5 percent confidence level.

TABLE H-1. CBO FORECAST ERRORS BY FORECAST HORIZON
(Mean absolute errors, in percentage points)

Variables	Forecast Horizon: Six Months	One Year	18 Months	Two Years
	Fourth Quarter to Fourth Quarter			
Growth Rates				
GNP72	1.5	1.5	2.3	2.0
PGNP	0.8	1.3	1.5	2.2
GNP	2.0	2.6	2.4	2.6
CPIU	0.7	2.0	2.5	3.3
Levels				
RUC	0.7	0.8	0.9	1.1
RTB	1.9	2.4	2.9	3.7
RCB	0.9	1.4	1.6	2.0
	Calendar Year			
Growth Rates				
GNP72	0.7	1.1	1.4	1.5
PGNP	0.4	0.8	1.3	1.8
GNP	0.9	1.4	2.2	2.7
CPIU	0.3	1.5	2.2	3.0
Levels				
RUC	0.3	0.4	0.8	1.1
RTB	0.6	0.9	2.3	3.2
RCB	0.3	1.0	1.4	2.0

TABLE H-2. CBO FORECAST ERRORS OVER COMBINED TWO-YEAR PERIOD (Mean absolute errors, in percentage points at an annual rate).

Variables	Summer (18 months)	Winter (24 months)
Fourth Quarter to Fourth Quarter		
Growth Rates		
GNP72	0.9	1.2
PGNP	1.0	1.6
GNP	1.6	2.3
CPIU	1.6	2.6
Calendar Year		
Growth Rates		
GNP72	0.8	1.1
PGNP	0.7	1.3
GNP	1.4	2.0
CPIU	1.2	2.2

TABLE H-3. CBO FORECAST ERRORS BY FORECAST HORIZON
(Maximum and minimum values, in percentage points)

Variables	Forecast Horizon							
	Six Months		One Year		18 Months		Two Years	
	Min	Max	Min	Max	Min	Max	Min	Max
Fourth Quarter to Fourth Quarter								
Growth Rates								
GNP72	-2.5	2.4	-2.2	4.5	-2.5	5.8	-2.3	4.7
PGNP	-1.6	1.5	-2.3	2.8	-3.0	2.6	-3.5	4.7
GNP	-3.6	4.1	-4.2	7.7	-4.6	8.9	-5.2	9.5
CPIU	-1.8	0.7	-4.5	1.9	-6.0	3.0	-6.7	5.1
Levels								
RUC	-1.1	1.5	-1.9	1.9	-3.5	0.9	-3.0	2.1
RTB	-5.9	1.7	-4.9	4.9	-4.8	4.6	-5.8	5.6
RCB	-2.5	1.0	-3.0	1.2	-3.9	0.8	-4.3	0.8
Calendar Year								
Growth Rates								
GNP72	-1.1	0.9	-1.6	2.0	-1.7	5.2	-2.0	4.7
PGNP	-0.9	0.7	-1.3	1.5	-2.2	2.6	-2.5	3.5
GNP	-1.9	1.4	-2.1	3.7	-2.5	7.2	-3.2	8.5
CPIU	-0.7	0.1	-2.9	1.3	-4.6	3.0	-5.7	3.7
Levels								
RUC	-0.4	0.6	-0.8	1.0	-2.4	1.4	-2.1	2.3
RTB	-1.9	0.5	-1.8	1.4	-5.3	1.8	-5.1	4.6
RCB	-0.9	0.6	-2.0	1.2	-3.7	0.8	-4.0	1.0

TABLE H-4. COMPARISON OF CBO AND OTHER FORECAST ERRORS
(Annual rate, in percent)

	One Year	Two Years
Growth Rates, Fourth Quarter to Fourth Quarter		
Real GNP		
Other forecasters	1.4 to 2.1	1.1 to 1.6
CBO	1.5	1.2
PGNP		
Other forecasters	1.0 to 1.5	1.3 to 1.9
CBO	1.3	1.6
GNP		
Other forecasters	2.2 to 3.6	1.8 to 2.8
CBO	2.6	2.3
CPIU		
Other forecasters	1.7 to 2.4	2.4 to 3.2
CBO	2.0	2.6
Levels, Fourth Quarter		
Civilian Unemployment Rate		
Other forecasters	0.6 to 1.0	0.9 to 1.6
CBO	0.8	1.1
90-Day Treasury Bill Rate		
Other forecasters	1.9 to 2.8	3.2 to 4.2
CBO	2.4	3.7

SOURCE: Stephen K. McNees and John Ries, "The Track Record of Macroeconomic Forecasts," *New England Economic Review* (November/December 1983), pp. 5-18.

NOTE: Information for "Other forecasters" is based on forecasts from 15 sources over the period 1976:2 through 1983:2. For a complete description of these errors, see McNees and Ries, "The Track Record of Macroeconomic Forecasts."

TABLE H-5. CORRELATION MATRIX OF CBO FORECAST ERRORS

	Growth Rates				Levels		
	GNP72	PGNP	GNP	CPIU	RUC	RTB	RCB
Fourth Quarter to Fourth Quarter							
Growth Rates							
PCH(GNP72)	1.00	0.22	0.84	0.02	-0.74	0.22	0.00
PCH(PGNP)		1.00	0.71	0.88	-0.49	0.78	0.30
PCH(GNP)			1.00	0.50	-0.80	0.59	0.15
PCH(CPIU)				1.00	-0.38	0.84	0.34
Levels							
RUC					1.00	-0.65	-0.38
RTB						1.00	0.63
RCB							1.00
Calendar Year							
Growth Rates							
PCH(GNP72)	1.00	0.29	0.84	0.05	-0.8	0.38	-0.02
PCH(PGNP)		1.00	0.76	0.88	-0.50	0.70	0.07
PCH(GNP)			1.00	0.52	-0.83	0.64	0.02
PCH(CPIU)				1.00	-0.32	0.71	0.23
Levels							
RUC					1.00	-0.68	-0.27
RTB						1.00	0.64
RCB							1.00

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ERRATA

The Economic and Budget Outlook:
Fiscal Years 1986-1990

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A technical error caused misalignment of the columns in Tables D-2 and D-3, at pages 153 and 154 of this report. Attached are copies of the tables as they should appear.

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TABLE D-2. EFFECT ON UNIFIED BUDGET DEFICITS OF POLICY CHANGES SINCE 1981 (By fiscal year, in billions of dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Deficit (-) or Surplus Under Policies in Effect January 1, 1981	-106	-151	-95	-74	-64	-42	-17	11	68
Legislative Changes									
Tax reductions	-41	-75	-99	-111	-130	-149	-162	-186	-228
Defense spending increases	-3	-16	-23	-35	-41	-53	-65	-79	-95
Nondefense spending cuts	40	48	50	38	63	69	73	82	88
Effect of legislative actions on interest costs	a/	-3	-10	-21	-35	-50	-69	-93	-123
Total changes	-5	-45	-81	-129	-143	-183	-223	-276	-359
Deficit Under Policies in Effect January 1, 1985	-111	-195	-175	-203	-206	-225	-240	-266	-290
MEMORANDA:									
January 1981 Baseline Deficit (-) or Surplus b/	-30	18	76	138	209				
Technical and Economic Differences Between Current Estimate of Deficit Under 1981 Policies and 1981 Baseline	-76	-168	-171	-212	-273				

SOURCE: Congressional Budget Office.

a. Less than $500 million.
b. For 1981 baseline, see Congressional Budget Office, *Baseline Budget Projections: Fiscal Years 1982-1986* (July 1981).

TABLE D-3. EFFECT ON REVENUES OF POLICY CHANGES SINCE 1981
(By fiscal year, in billions of dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Revenues Under Policies in Effect January 1, 1981	659	676	765	846	919	1,004	1,096	1,191	1,316
Legislative Changes									
Economic Recovery Tax Act of 1981	-42	-93	-141	-169	-208	-244	-270	-299	-335
Tax Equity and Fiscal Responsibility Act of 1982	a/	16	34	37	48	58	58	54	53
Surface Transportation Assistance Act of 1982	--	1	4	4	5	5	5	5	5
Social Security Amendments of 1983	--	--	6	9	9	11	23	29	21
Repeal of withholding of tax from interest and dividends	--	a/	-3	-2	-2	-2	-2	-2	-2
Deficit Reduction Act of 1984	--	--	1	9	16	22	24	26	30
Other	1	1	1	1	2	1	1	1	a/
Total changes	-41	-75	-99	-111	-130	-149	-162	-186	-228
Revenues Under Policies in Effect January 1, 1985	618	601	666	735	788	855	934	1,005	1,088
MEMORANDA:									
January 1981 Baseline Revenues b/	709	810	920	1,033	1,159				
Technical and Economic Differences Between Current Estimate of Revenues Under 1981 Policies and 1981 Baseline	-50	-134	-155	-187	-240				

SOURCE: Congressional Budget Office.

a. Less than $500 million.
b. For 1981 baseline, see Congressional Budget Office, *Baseline Budget Projections: Fiscal Years 1982-1986* (July 1981).